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ABSTRACT

Texas Southern University's capacity to simultaneously conduct comprehensive academic instruction, research and development, and community service programs is evaluated in this document. Automated techniques and subjective reasoning have supplied the basis for the analyses. The major objectives of the report were to determine the resource capabilities for projected expansions in the following areas: Sociopolitical Education; Community Development and Urban Planning; Community Health and Recreation; Allied Health Professions; Cross-Cultural Education; and Human and Social Service. The secondary objectives were to develop statistical methods of coding the university's resource data in such a manner that they could be used in various program planning, development, implementation, and evaluation activities. Appendixes contain: a forecast of program expansion and statistics concerning the faculty at Texas Southern University. (Author)

ED 090820

an analysis of texas southern university's capacity to service community needs

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AN ANALYSIS OF TEXAS SOUTHERN UNIVERSITY'S CAPACITY TO SERVICE COMMUNITY NEEDS

Urban Resources Center Publication
Volume V

The Role of a Black Institution
of Higher Learning in Community
Development

Texas Southern University
Houston, Texas 77004

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We are deeply indebted to Mr. Earl Shepherd, director of Towncepts Associates, a minority operations research organization, for developing and implementing the Assessment Model. This report is essentially a report of his findings.

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I. INTRODUCTION

This document is a report on an in-depth evaluation of Texas Southern University's capacity to simultaneously conduct comprehensive academic instruction, research and development, and community service programs. Automated techniques and subjective reasoning have supplied the basis for the analysis which follows. This portion of the report will present the objectives and principles which have forged the manner of reasoning and the type of techniques used.

Objectives

The major objectives of this project were to determine the resource capabilities and requirements of Texas Southern University for projected expansions in the following areas:

a. Socio-Political Education

b. Community Development and Urban Planning

c. Community Health and Recreation

d. Allied Health Professions

e. Cross-Cultural Education

f. Human and Social Service

The secondary objectives of the project were to develop statistical methods of coding the University's resource data in such a manner that they could be used in various program planning, development, implementation, and evaluation activities.

Methods and Procedures

Data were collected on the University's fiscal, academic, physical, and service operations. The data collected were analyzed for content and volume. Resulting from the analysis was a coding scheme which would allow the data to be manipulated in order to perform statistical calculations in a unique key identifier scheme suitable for future expanded use in meeting outlined objectives. Statistical findings were based on results from performing linear regression and correlation analysis type calculations on data fed to the CDC 6600. Subjective analyses of computerized results were made and are present in the text.

Automated Analysis

The primary objective of an automated analysis was to apply fundamental statistical distribution methods to historic data within the University--the results of which could be used to depict existing trends. From these trends, linear regression and correlation analysis could then be used to forecast future operations.

The practice most consistently used to regulate the accuracy of this type of forecasting is to consider the period of forecasting as the sum of forecasts of smaller time periods within the larger period. Although the forecasting technique used here may be mechanically considered infinite, a forecast limit of twenty-five (25) years was considered to be more consistent with the University's

overall planning objective. Within the twenty-five (25) year forecast, the following milestone periods were identified:

(1) The five years which begin the twenty-five (25) year forecast were considered to be the plan mobilization period.

(2) The second five years were considered to be the plan implementation period.

(3) The last fifteen year period was considered to be both the maximum absorption period, and initial plan re-evaluation and adjustment period.

We do not intend to imply that this time-period breakdown is either inflexible or self-contained. All mechanical applications to the forecasting were processed on the assumption that sufficient long-term trends were evident to facilitate reasonable accuracy in predicting operations. However, in no instance can a mechanical forecast be applied to predict future operations without sincere consideration of factors which are undeterminable by mechanical standards. The assumptions which follow describe some of the subjective factors and their potential influence on trends--present and future.

II. ASSUMPTIONS

The assumption that all options available to the University are mutually independent was made, although it is eminently clear that such is not the case for the situation under consideration. The justifications for this assumption are:

(1) No single option will consume all of the University's available resources.

(2) Any combination of options available whose required resources and benefits are over-lapping would require a smaller portion of the total resources available and yield higher returns if they were considered to be singularly productive.

(3) By analyzing each option separately, consideration can be given to groups of options in terms of criticalness versus expected available resources.

The contribution of the assumption, with justifications, to the forecasting model is that it permits flexibility in priority assignments to programs that were reviewed for potential University involvement. This flexibility was used to concatenate batches of programs based on cost-priority versus need-priority. Low-dollar volume programs were assigned higher cost-priorities.

In pursuit of the goals of a Special Purpose Urban University, Texas Southern University's posture in relation to community needs ought to be one of developing means to improve services and facilities basic to the life style of the community. From this statement, the following assumptions are made:

A. Cost benefits from community improvement will be low in terms of overall recycling. This assumption will be valid only for

the first five years of any detailed programmatic changes. Supporting this assumption, several priority surveys by local interest groups report, without significant variation, that residents of impact areas will rank quality of life improvement above economic growth improvements. Once these improvements are visible to residents of impact areas, it can be expected that dialogue contributing to the overall restructuring of the community's life style will develop. Although the total gamut of quality of life improvements can not be achieved in five years, the University needs at least this period of time to restructure its human skills and expand its physical facilities in order to be able to cope with the massive changes that have been brought about to make life style improvements that will be visible and viable to the residents of this area.

B. The overall relationship of the community and the University is reciprocal in nature. Supporting this assumption is the fact that a high percentage of the existing University faculty received both their high school and college educations in the Houston community. More particularly, a high percentage received their educations at Texas Southern University. While the nature of this relationship may be widespread in other localities, its significance at Texas Southern is more imposing because of the following reasons.

Education is thought to be an economic up-lift process in the attempt to expand the community income potential, and from this

expanded base likely income pctential results are: higher consumption of capital goods and services, higher tax base, deeper involvement in the socio-economic posture of the community as a whole, and, more importantly, the placing of needed human skills in proximity to impacted areas. If the University can serve as a vehicle for producing the skills needed through its presence in the centroid of the impact areas, the resource potential of the University will be enhanced because of the direct lines of communication between the University and neighborhood constituents. Furthermore, it can be anticipated that such involvements, commitments and interest in the community will lead to self-emanating business orientations which could foster the development of the community outside of any programmatic planned changes or capital stimulus by the University. The impact of self-development within the minority community of which Texas Southern University is a part will be both highly desirable and highly productive.

C. Economic productivity can aid in the solution of problems that are critical and almost of crisis proportions to the minority community. One illustration is the transportation problem. Reasonably inexpensive transportation is vital to the minority inner-city community for two reasons: (1) inexpensive transportation will allow minority inner-city residents to obtain additional transportation services that have been identified as

being vitally needed in the Texas Southern University community; and (2) it will also result in public works facilities and services such as improved streets and lighting, pest control, recreational facilities for parks and playgrounds, and programs for youths in the community. These services are incidental to what is considered a reasonable way of life in most communities, yet they are sufficiently lacking in the areas surrounding Texas Southern University.

D. The resources of the University can enhance the quality of life and health services. Although efforts have been made by several private organizations to provide health services in the community, there is still an urgent need for health care facilities for the elderly and the indigent persons in this area. It is assumed that the Texas Southern University staff can contribute largely to the community in the health area. It is further assumed that the Texas Southern University staff has among its personnel, people who are capable of doing the type of research needed to bring about health improvements in the black neighborhood and to attack health problems which are almost uniquely identifiable within the black community. We subscribe to the idea that the present biology department is capable of carrying on the type of environmental research that will help in solving the problems within the Texas Southern University area and contributing largely to improving environmental conditions throughout the Houston area.

E. The University itself is uniquely equipped with a faculty which is highly capable of offering almost any type of sophisticated academic program that can be found in the country. It is assumed that, given the necessary resources, the Texas Southern University faculty itself could bring about the types of programmatic changes that are necessary to expand its educational program and reorganize its priorities in terms of the mutual needs of the community and the academic student. We also make the assumption that the University itself is capable, in terms of the quality of its faculty, of attracting the necessary funds and facilities from private organizations to expand its programs and to enhance the structure of the educational output within the University.

From these assumptions there is some evidence that Texas Southern Unviersity's overall educational program is too restricted to offer the types of services that are necessary to massively impact community life styles. However, the assumption is that there is a need for extensive and unrestricted reallocation of personnel and funding. Resources and physical space commitments can be predicted, but without detailed consideration of the impact on existing University operations. Realizing this, select impact considerations were isolated and a model was developed to yield the best program choices within these limitations. During actual implementation, other impact considerations will undoubtedly shape the outcomes. At that point in time, the scope of the operation may not

be as broad as the predictions set forth in this document. At the start of our project investigations, initial preference was given to forecasting on the basis of linear optimization and analyses techniques. The forecasted results reflect our decision to conduct our evaluations using those techniques. The usefulness of the assumptions that have been stated is that the number of dependent variables used in forecasting could be held to an absolute minimum. The maximum number of variables used was based on the pre-established criterion that predictions fall within the 85 to 95 percent confidence factor range. It was felt that this confidence factor range was absolutely mandatory in order that the findings of this project receive serious considerations. Actual results are predicted at an average 82.19% confidence factor level. Although this average is below the range minimum, it is considered to be acceptable for publication. We feel justified in our conclusions because in the most critical area of financial forecasting actual confidence level averages were above 90 percent for most predictions.

III. MODEL DEFINITIONS

All of the assumptions that have been stated to this point contribute to development of a model to simulate the University's growth pattern and potential. Conclusions anticipated from this simulation were

(1) An identification of Texas Southern University's resource potential in relation to community needs.

(2) A directional flow of needed manpower reallocation.

(3) Synopsis of which University physical facilities contribute to community service needs.

(4) Needed expansion of physical resources in order for the University to fully involve itself in community development.

(5) An identification of priorities for reallocation and allocation of funding resources and a projection of funding needs.

The accomplishment of these objectives was undertaken through the use of computer aide analysis techniques. The process flow is described in the text which follows.

An expected by-product of this project was a system whose orientation would be toward development of a generalized information retrieval system and resource codification system. The most widely used means of implementing these systems within the computer industry was through the deployment of some type of random retrieval system. Because of the low data volume needed to produce this report and the lack of sufficient storage media available to Texas Southern University, the random retrieval was bypassed in

favor of sequential processing to accomplish the stated objectives. However, careful consideration was given to development of a data coding scheme which would fully lend itself to random processing. From these considerations it was believed that, for this project, a system had been developed whose structural characteristics require no further adaptation for deployment in a random process system. Furthermore, it was the expressed intent of the Director of the Urban Resources Center that the project be developed as a small portion of an information system capable of capturing information on the following types of institutions:

(1) Academic
(2) Federal Government
(3) State Government
(4) County Government
(5) City Government
(6) Community Organizations - Profit
(7) Community Organizations - Non-Profit

Information to be captured on this institution would be relative to the following resources:

(1) Human Resources
(2) Facility Resources
(3) Financial Resources
(4) Service Resources

Because it could not be determined at this point whether randomizing would occur through the use of large amounts of computer memory or through utilization of a large amount of mass storage devices or a combination of both, it was mandatory to develop a data key whose application would fit well in use as a mass storage access key or as a key-pointer to a chain list reached from a computer memory. From this mandate, every piece of data was looked upon as being from one of the seven types of institutions named and being a resource that conforms to one of the four designations that have been named.

In many instances, organizational structures of institutions may bypass many of the functions within the model structure. Before any coding of data can take place relative to the organization, the structural characteristics of the information relative to the model organization must be defined. Simply stated, a profile of the institution must be developed. To do so allows the model organization to become flexible.

The profile record must contain the following data:

(1) Location of the institution

(2) A definition of the management structure of the institution

(3) A list of key departmental agencies within the institution

(4) An outline of every sub-organization in the institution and the position of each sub-organization relative to key management

If a predefined list of personnel types, equipment, product and service types is used, then any transaction dealing with an institution can be electronically recorded. The profile is transcribed via a predefined format which is keypunched, edited and fed back into a computer. The computer will then assign a profile code and link any institutions which are subsidiaries of the institution in profile. The computer interpreted outline of the institution is then printed out. The output given will list a code to be associated with each organizational element. (See Figures 1 and 2) From the codes listed, data can be input or retrieved giving the following information:

(1) manpower skills

(2) fiscal operations

(3) inventory of supportive equipment and supplies

(4) a reference list of goods and services produced

(5) comparisons of capabilities with other institutions

(6) operational forecasts

This informational process is widely used in the computer industry; it is very simple to operate and maintain. Personnel operating the system need not be familiar with the delicate details of computer technology. A very useful by-product of the system is that it lends itself to the development of statistical models very easily.

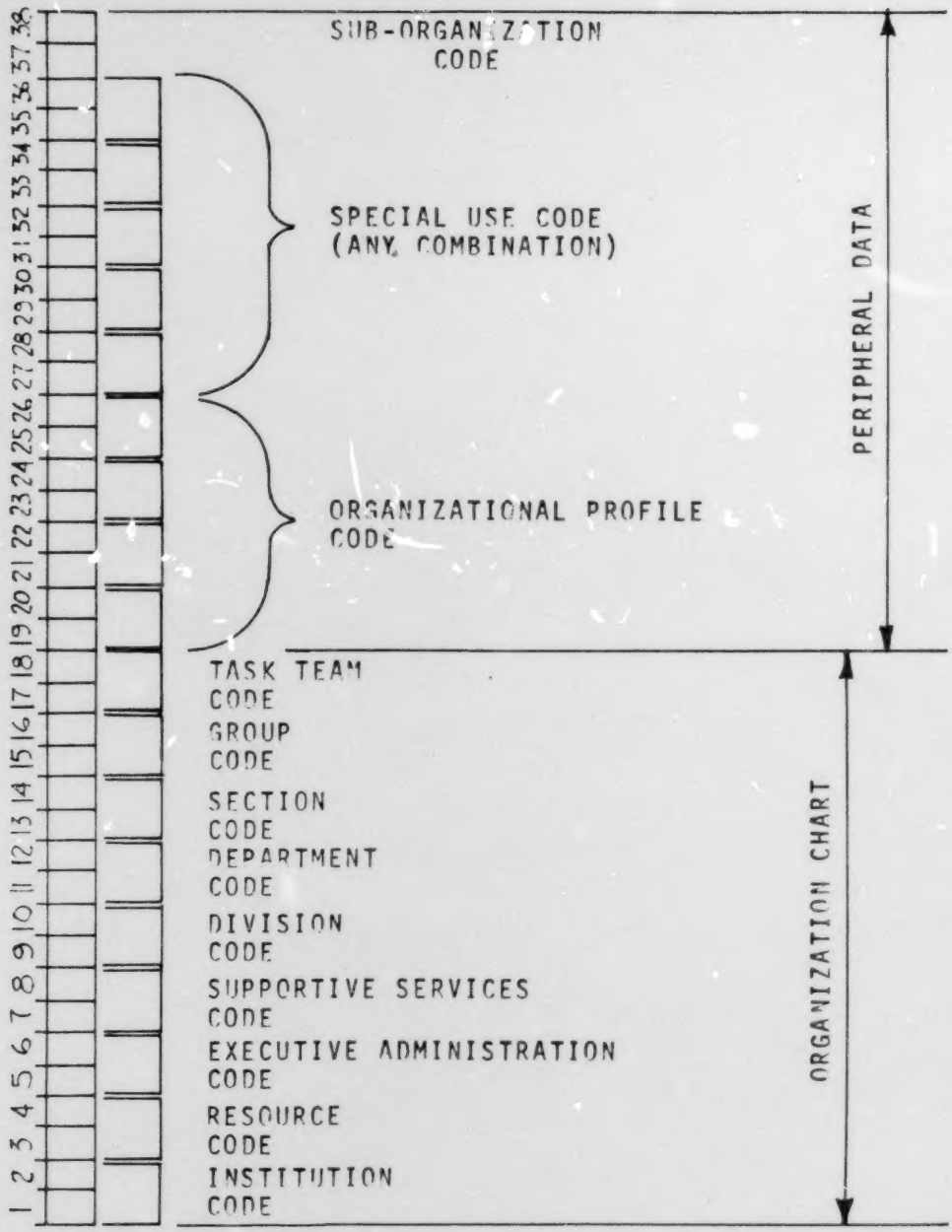
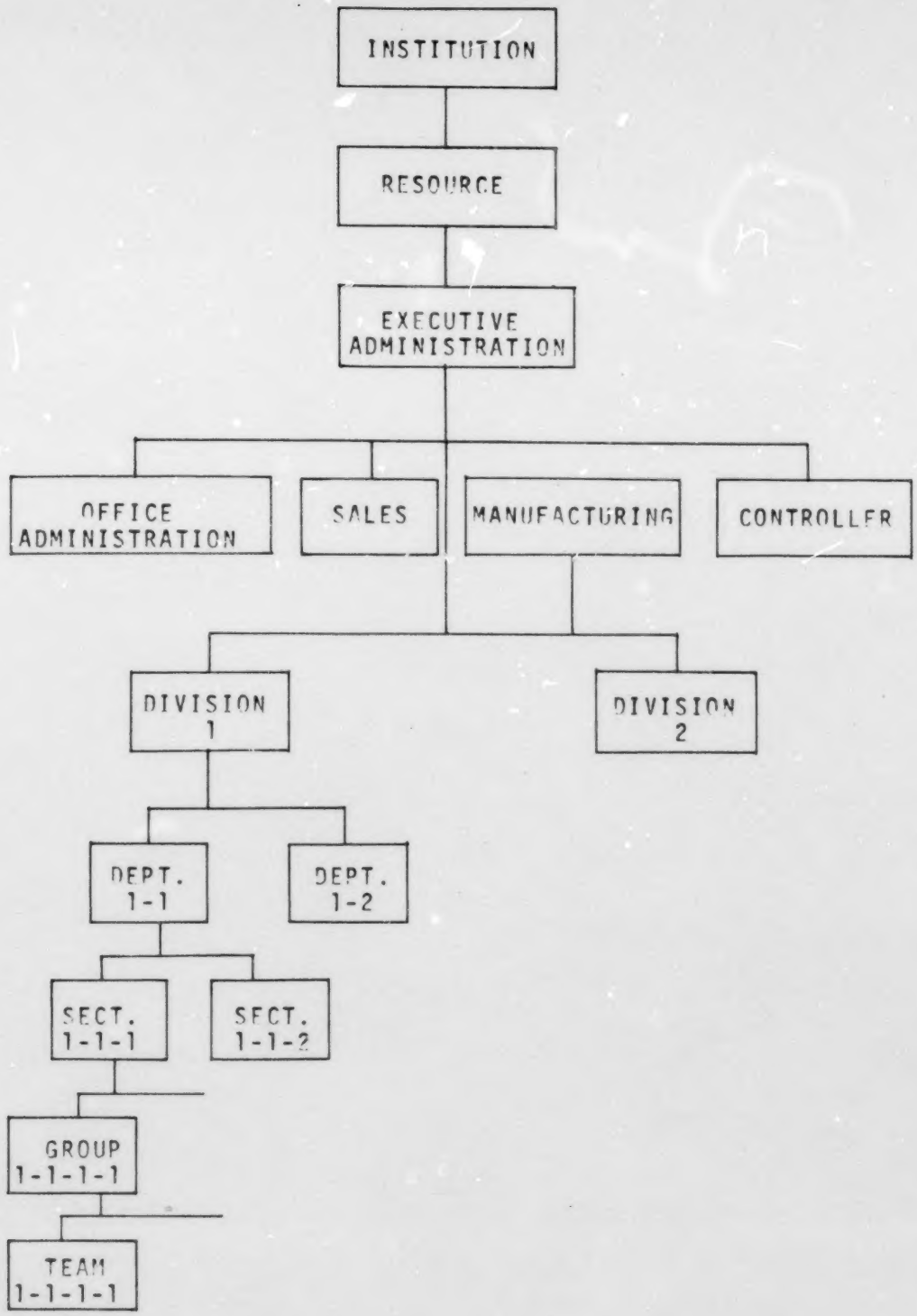

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38
SUB-ORGANIZATION CODE
SPECIAL USE CODE (ANY COMBINATION)
ORGANIZATIONAL PROFILE CODE
PERIPHERAL DATA
TASK TEAM CODE
GROUP CODE
SECTION CODE
DEPARTMENT CODE
DIVISION CODE
SUPPORTIVE SERVICES CODE
EXECUTIVE ADMINISTRATION CODE
RESOURCE CODE
INSTITUTION CODE
ORGANIZATION CHART

FIGURE 1

DATA KEY

FIGURE 2

MODEL ORGANIZATION CHART



Texas Southern University Model

For the task of developing a model to demonstrate Texas Southern's resources and capabilities, a more simplified version of the model process was choosen. The development of the simulation model involved translating the data collected into a one-dimensional 10-digit code base. The fundamental breakdown of the code follows the general outline of the scheme described earlier. More precisely the code structure was defined as follows:

(1) Digit positions 1-2 Institution Code

(2) Digit positions 3-4 Resource Code

(3) Digit positions 5-6 University, College or School Code

(4) Digit positions 7-8 Department within the School or College

(5) Digit positions 9-10 This code position varied according to the type of data being handled

a. For financial data the Personnel Code

b. For academic data the Academic Grouping Code

For the financial data, the coding key was expanded to twelve positions in order to capture the Personnel Category Code. The data collected for use in the computer simulation of the Texas Southern academic operation were of several types. These several types of data will be delineated and discussed in the text following.

Data on the Texas Southern University buildings. The use of these was to determine if additional student enrollment could be served within the existing space limitations required on campus. From the simulated output, it was determined that the existing campus

could offer additional service. Once this determination was made the ratios of average academic cost, to average instructional cost, to average enrollment; average equipment to average enrollment; and average supportive administrative services to average enrollment were calculated. Subsequent to these calculations, the probable errors in the developed ratios were determined. From the probable errors, calculations of ratios were each adjusted to a 95% confidence factor. Finally a linear regression technique was used to determine the probable University's enrollment in relationship to the maximum utilization point.

Data on the academic program of Texas Southern. From these data the primary aim was to capsulize the distribution of the academic workload and make some judgments of the value of academic programs in relationship to the human skills needed by government, business, industry, and the impacted community. In making the judgment, primary considerations were given to the skill requirements for employment in the Houston metropolitan area. Additional consideration was given to the interface of existing curricula with potential new curricula. Lastly, an evaluation of the teaching skills needed to meet curricula demands was undertaken. Included in this evaluation were considerations of possible faculty contributions in the University's projected community service programs.

Information related to the initial capital investment of University buildings. This information was used to predict the date that the

buildings currently on campus would require replacement and the estimated replacement cost. Two constants keyed this prediction. The first constant used was a forty (40) year longevity period from the date of occupancy. This is an average factor that is common to the useful life span of buildings during the time period for which most of the Texas Southern campus buildings were erected. Many of the buildings on campus will not need complete replacement after 40 years; however, major rehabilitation on all buildings during this forty year period will begin to approach the replacement cost. Contributing to the rehabilitation cost will be the continual need to re-organize space in the buildings due to

(1) The fusion of needed equipment into the University's inventory.

(2) The expansion of the University's academic or community service program requiring varying and unique arrangements of space other than those which presently exist.

(3) The projected expansion of University administrative services.

The second constant used to predict the replacement cost of buildings on campus is the average rate of increase per year of 6.82 percent for educational construction cost. This constant is a nationwide average and may be somewhat lower for the Houston area. The relationship of average longevity to average rate of increased replacement cost does tend to project a figure which yields a satisfactory replacement cost when related to the Houston area. Several buildings on campus, because of lack of sufficient

periodic maintenance and the high use factor, will fall far short of the predicted longevity span of forty (40) years. Primarily, these buildings are dormitory and student life buildings. No effort was made to deal with the projected cost of building expansion. This was not done because any such expansion is outside of the normal University fiscal budget and may well be handled by unforeseeable gifts and grants outside of state appropriations.

Up to this point, a discussion of the impact planning requirements needed by the University to become involved in expanded service has been deferred to the forthcoming discussion on findings and implications. However, it is pertinent to state at this point that physical expansion at Texas Southern has been unjustifiably slow. This situation seems even more mystifying when one considers the rapid rate of physical expansion across the nation and in the State of Texas, in particular. If the situation of physical development at Texas Southern does not begin to improve, the attempt to move toward more diversified community service type programs and academic expansion will be severely hampered. Notably lacking the the University is sufficient quantity of research space, library facilities, auditorium space and meeting rooms with proper audio-visual aid equipment.

Data pertaining to faculty and staff wages. This forecast was useful in assessing the monies which will be needed to achieve manpower resource reallocation for expansion. The evaluation criteria were based on the following assessments:

1. Each faculty member at the Associate Professor and above level who is engaged in teaching first and second year students could be adequately replaced by 1.68 graduate student assistants. This assessment is made with the stipulation that the faculty instructor has a workload distribution of above 6 classroom hours per week. Replacement was considered only for the faculty in the Departments of Chemistry, Physics, Biology, English, Economics, Sociology, and Business Administration. In advance of the discussion of findings, it can be stated that while the cost of this replacement does not appear to be excessive, the lack of a doctoral program at Texas Southern precludes the use of graduate assistants who have degrees beyond the bachelor's level. The lack of such persons in the instructional workload may pose an accreditation problem for some of the departments listed.

2. Because sufficient actuarial data were not available for this evaluation and due to the relatively short life span of Texas Southern University, an accurate determination of the length of faculty tenure could not be made. A review of the University personnel files revealed that fifteen (15) years is the average turnover rate among senior faculty members. (See Appendix A-1) Administrative turnover appears to occur about every 6.75 years. Turnover in instructor level personnel occurs at the rate of nine (9) months. These constant predictions were used to project the cost of maintaining the present faculty and staff level over the

next twenty-five (25) years. Additionally, these rates were used to calculate the cost of increasing the existing staff levels over a period of the next ten (10) years.

The average rate of increase in pay for all levels over a ten (10) year span was predicted to be 3 percent per year. The significance of the ten years in this assessment is that it is felt that the thrust of Texas Southern's growth under the ideological concept of a Special Purpose Urban University will reach its peak at the ten year milestone, while the expansions are predicted to be much less in the period that follows. This assertion should not be interpreted as a forecast for a reduction in operational or fiscal commitment subsequent to the first ten years of expansion.

A cursory review of the number and types of courses offered at Texas Southern. This review showed the potential for improving utilization of the academic faculty. A more thorough review of this situation was undertaken by involving the computer in grouping the classroom workload. (See Appendix D-3)

In an effort to determine if the University in its present structure could serve more students, a computerized comparison of existing utilization versus capacity was conducted. Because Texas Southern University is located in a large metropolitan area, the demand for evening education is quite high. An initial finding in this evaluation was that peak utilization of the University occurs between 8:00 A.M. and 2:30 P.M. daily. During this

period space utilization for instruction averages 80 percent of capacity. Assuming the availability of personnel, it was predicted that the University could operate at this capacity rate until 10:00 P.M. daily. These assessments were used to predict the maximum student utilization which could occur in the University. The resulting predictions were compared with the normal University operational expense. From this comparison the optimum student extended classroom time available was predicted.

The total University's operational expenses. Prior to deciding upon the method of feeding data to the computer, an analysis of annual reports and state budget appropriation was made. From this analysis it was determined that state appropriated funds were broken down in more detail than the non-state appropriated funds. Because the state appropriations spanned the entire University operation whereas the non-state funds did not, it was decided that predictions would be made on the basis of state fund allocations.

The financial data used were tallied by college departments within a college and by academic category. By reviewing data of a five year average, the statistical mean and the probable error factor were calculated. The departmental operations were calculated on the basis of their percentage relationship to the University expenditures. After all the calculated variables were optimized, a straight line upward projection was made. Included in the

projection was a 6.1 percent increase in operational cost and the amount of probable error based on application of the error factor to the average predicted increase. The predictions developed covered a twenty-five year period. After twenty-five years the confidence factor of the variables calculated began to drop to an unacceptable level. Furthermore, the consistency of the relationship of the dependent variables to independent variables began to diminish. From the resulting data, the capability to compare cost to meet program priorities with predicted actual monies available was developed. From predesignated program priorities and through the use of a random grouping technique, programs were compared in groups to determine which combinations most nearly matched the available cost structure. The set of programs selected from these criteria exceed by 1.82 percent the available monies for the first ten years of program deployment. This average expanded to 8.13 percent at the end of 25 years. Earlier it was stated that the thrust of the new program changes would probably reach its peak in the first ten years of involvement. In many instances some of the programs initiated will fully accomplish their goals in a ten year span. These programs may then be extracted from the cost prediction. From this research, it is felt that the programs listed below yield the optimum in terms of expenditures and productivity.

(1) University operated health service

(2) University operated business development service

(3) University operated neighborhood planning service

(4) University operated crime prevention program

(5) Expansion of the academic program to include

A. a computer science program

B. a marine biology program

C. a program in architecture and urban planning

D. doctoral programs in education, chemistry-physics, biology, economics, mathematics, and socioloty

(6) Programs involving the interaction of the University and government agencies in

A. housing planning

B. transportation planning

C. upgrading of employment skills

(7) Legal assistance programs

(8) Nutrition programs

Some of the programs listed will be almost self-supporting in terms of meeting their own cost requirements. While the programs listed represent the most statistically expedient course to follow, public demand may constantly regulate the delegation of priorities. However, the text on findings and implications will almost exclusively deal with the programs which have been identified.

Mathematical Model

Program Forecasting. Several academic and service programs were assessed numerical priorities. From this assessment, a computerized evaluation to determine programs Texas Southern could most successfully implement was initiated.

Method

1. List programs in order of priority based on need and level of minority representation. (See Appendix A-2)
2. Find the mean in this list. Since all programs above and below this mean will have the same range in priorities, choosing a mixture of programs corresponding to the numbers on either side of the mean will yield better results than a random choice of programs. This method will reflect need-priorities in a uniformly distributed pattern relative to the mean.
3. List all programs in ascending order of cost.
4. Generate five sets of random numbers using the following random generator equation

$$X_{N+1} = (aX_N + c)_{MOD\ 5}$$

where X = starting value

a = multiple

c = increment

This method for generating random numbers is known as the linear congruential method. For this application, values were chosen as shown below.

X	a	c
1	2	4
2	3	5
3	4	6
4	5	7
7	8	9

When this set of numbers is applied to the random generator equation the result is always a number that is not an even multiple of five (5) for any set of iterations through the equation that is less than ten (10). Thus then limit of ten (10) programs in a set is established. Correspondingly, the eleventh priority program is established as the mean of the entire group. Because the total number programs under consideration would exceed the maximum allowable from this arrangement, programs were stratified to conform to the limitations.

5. The random sets generated are now compared to determine which of them most closely conforms sequential to the cost-priority list. Subsequently they are arranged in the best sequence of conformity.
6. The last operation is to fit all programs on similar priority levels into the available cost structure. To do this the first and last programs in a set are

established as fixed boundaries. For any set of programs above or below the available funds limit, programs from other sets with equal priorities between boundaries may be interchanged. If this process is carried through to the point that no future program cost saving can be related, the program closest to the fund limit becomes the best choice.

7. The entire technique is known as three (3) dimensional and academic expansion (See Appendices A-3 and A-4) random optimization. The optimum programs are chosen randomly on the basis of

    a) Need-priority
    b) Cost-priority
    c) Available funds limit

Space Utilization. The University's space utilization of classroom and service space was evaluated for the purpose of determining optimum utilization of space within the confines of existing facilities. Due to the lack of supportive data from past periods a review of recent data of the Texas College Coordinating Board Assessments on the University's space utilization was made. For all academic instruction and research and development space, the average utilization was at a rate of 80 percent of capacity for six hours during Fall sessions. (See Appendix C-1) For each room in the University categorized as academic or service, the following calculations were made:

$X = 6(.8)a$

$Y = 8(.8)a$

$Z = X + Y$

where X = present total utilization

Y = forecasted expanded utilization

Z = total potential utilization

a = allowable capacity

The resultant "X", "Y" and "Z" calculations were then reduced by the relationship

$$\overline{Y} = \frac{ab}{\Sigma Z}$$

where a = total capacity

b = enrollment for 1972-73

$\overline{Y}$ = expected utilization

Financial Analysis. Financial data processed were from the period 1968 through 1973. These data were manipulated for trend analyses and subsequently projected for forecasting through the next twenty-five years.

Method

1. Data were collected on the University showing the cost-structure of maintenance, instructional, administrative, and supportive service activities. The data were analyzed by department within a college, by subject within a department, and by administrative and supportive service functional categories. The data on each year were summarized and the increase in appropriated increases for each year was calculated. For the 1973-74 academic year, the total University

was assessed at $8,750,000. This figure was broken down into percentages for each department. Percentages were calculated as averages for the previous five years.

2. The mathematical relationships used to perform calculations are

   a. Appropriated increases

$$\Delta Y = \Delta Y_n - \Sigma Y_{n-1}$$

   where ΔY = Appropriated increase

   ΔY_n = Current year's appropriations for all operations

   ΣY_{n-1} = Previous years' increase for all operations

   b. The trend pattern of appropriate increase was calculated from the relationship

$$\bar{Y} = \left(\frac{\Sigma X - b\Sigma X}{N}\right) + \left(\frac{\Sigma XY - \frac{\Sigma X \Sigma Y}{N}}{\Sigma X^2 - \frac{(\Sigma X)^2}{N}}\right) X$$

   where X = number of year units

   Y = amount of increase

   N = number of unit years in the trend (5)

   $\bar{Y}$ = calculated trend rate

   c. The trend calculate was extended upward with the following relationship

$$\bar{Y}_x = a + bx$$

where a = the value of $\bar{Y}_x$ when x = 0

b = the calculated alope of the trend curve

X = the unit number of years to be forecast

$\bar{Y}$ = the calculated trend for each forecasted year

d. For research and development and community service funds calculations, comparisons in the annual report of the University show that these funds have been approximately equal to the state appropriations. This observation was carried forward for each of the forecasted years. These observations were adjusted downward by application of the following mathematical formula

$$S_{y.x} = \sqrt{\frac{1}{N-2}\left\{\Sigma(y-x)^2 - \frac{[(x-\bar{x})(y-\bar{y})]^2}{\Sigma(x-y)^2}\right\}}$$

where $S_{y.x}$ = the point estimate of the standard deviation

X, N, Y = the same as described under section "b"

IV. HUMAN RESOURCES ASSESSMENT

OVERVIEW

Texas Southern University, because of the high degree of skills found in its faculty and because of the experiences of these persons, (See Appendices B-1 through B-4) is uniquely the beneficiary of a type of educational staff which is not commonly found in institutions throughout the country. These traits are vital to the academic productivity of the University; it is also felt that they blend themselves well with the needs of the community and have the capacity to resolve the problems within the community itself. It has been stated previously that the business of Texas Southern University is that of education, specifically, that of offering college degree programs. However, existing talents are not limited strictly to guiding the educational processes that are presently being carried on within the University. The exhibited capabilities of the University lend themselves to the type of effort which would extend much beyond the University community itself and into the surrounding neighborhoods, touching the personal lives of the people who have come to look upon Texas Southern University as an institutional resource for the improvement of the lot of minority citizens in this area.

Before substantive programmatic changes can take place, it must be noted briefly that there are some areas requiring improvement which Texas Southern University must address itself in order

to meet existent and future demands and in order to structure itself properly to service both the community and its educational purposes.

Whenever drastic changes in institutions, organizations or government occur, they are most successfully brought about in the atmosphere of detailed planning, monitoring and re-evaluation of the original plans. In order for Texas Southern to become involved in its goal of becoming a total urban University capable of dealing with urban needs, a certain type of organizational structure must exist within the University. It is essential for the University to have within its elements a planning group which is capable of setting forth the strategies for achieving the established goals, working with the various department heads and staff within the University in evaluating the progress toward meeting these goals, and securing for the University the needed resources to achieve the goals. Appropriate functions of such a planning group would include, but not be limited to

1. Setting priorities within the University
2. Assisting instructional and staff personnel in focusing activities in relation to these priorities
3. Re-evaluating programs
4. Identifying and recruiting manpower were needed to assist existing personnel in reaching these goals.

Without this type of staff involvement it will be very difficult for the University to mount any sort of sustained effort at reaching intc the community itself and redirecting its own programs.

ACADEMIC AREAS

This section of the report describes in a succinct way the human resource capability that presently exists within selected Schools and Departments of the University. The assessment is based on selected aspects of professional preparation, research and public service involvements of the faculty and staff. A more detailed representation by departments based on an 80 percent sample is reported in Appendices B-5, B-6 and B-7.

Health and Physical Education

The Department of Health and Physical Education has personnel whose training ranges from biology and the social sciences to modern dance. The intensity of skills reflected by personnel in the Department of Health and Physical Education is evident in the success of TSU's inter-collegiate athletic program. Further evidence of competence is revealed in the volume of published research by staff members in the department. From the tabulation of public service experiences it can be shown that Physical Education Department instructors and staff personnel have already been actively engaged in community service activities. Staff personnel in this department reflect the capability and capacity to plan and implement vitally needed community health and recreational programs. We have previously identified as a planning project objective the involvement of the University in health care services, crime prevention and the abatement of drug abuse.

We foresee adequate personnel resources in the Department of Physical Education to vitally assist in meeting these program objectives.

Sociology and Economics

The Department of Sociology and Economics faculty and staff personnel reflect the broadest based training within the University. Specifically, personnel within this department have college degrees in social welfare administration, architecture, economics, government, sociology, political science, urban affairs, finance, banking, marketing, urban design, statistics and public administration. To further augment these imposing credentials the faculty in the Department of Sociology and Economics has received substantive training in juvenile delinquency, and many other areas related to pressing social problems. The faculty has been involved in extensive research projects dealing with social problems and has numerous publications concerning these problems and potential solutions. Socio-economic planning is the first step in any community redevelopment effort. Existing faculty in this department has extensive work and public service experience dealing with public planning. The potential for the highest level of social involvement in impact planning for minority communities in this area can be realized by the talents presently in the Department of Sociology and Economics. Needed counseling and guidance skills

that are vital to human relations programs and programs dealing with the economic posture of the minority community are clearly evident within this faculty group.

Music

Through decades of technological experience, music has been one of the most constant modes of communication between persons of different cultural backgrounds. The contributions of minority ethnic groups to American music are significant. Whereas many different ideologies, programs, and masses of human effort have failed in establishing common bonds between the world's peoples, music has always been the medium that has moved enemies to share common joys. Within the Texas Southern University Music Department there are persons whose training and experience can impact the development of future musicians so that the cultural dialogue between different cultural groups can be enhanced. The University's Music Department has served the public in the past and should be expected to continue to provide this service as a means of expression and common understanding among people of different cultures.

Physics

The most eye-catching statistics in a cursory review of the Department of Physics faculty is the limited number of faculty personnel employed. The experience and technical training of this personnel is of high caliber. However, in order to forceably deal

with the more technically oriented problems that exist throughout the country, a larger number of faculty personnel in the Physics Department is justifiable. Without the additional personnel needed, research in bio-physics, environmental control and transportation cannot be carried on within the University to any substantive degree. Engineering programs, architectural programs and technical research programs rely heavily upon talents of skilled physicists. In many aspects the research and development programs of the University in the past have reflected a weakness due to the low number of physicists within the University.

Reading and Study Skills Center

For many years, educational researchers have known that the capacity of an individual to achieve academically will not progress beyond the scope of his reading comprehension skills. Although the Reading Skills Center personnel are not quantitatively represented within the University faculty, quality of educational training and teaching experience is a vital resource to the community in any programmatic outreach to enhance the economic posture of the community, to facilitate better learning among minority youths and to involve the University in upwardly mobile improvement programs. The effort within the University to develop Reading Skills Clinics in the depressed areas surrounding the University could be undertaken and money to operate these centers could be gained by offering to professional and business persons fee-paid speed reading courses.

Technology

The personnel in the School of Technology has the educational and the work experience which covers the gamut of the major industrial trades and technical disciplines. Specifically, persons whose educational experience includes drafting technology, social sciences, electronics, architectural engineering, and engineering graphics are included among the School of Technology faculty. The experience of the personnel ranges from research technology, electronic consultants, professional photography to architectural consultants. The list of professional affiliations is imposing. The potential of this group to become involved in services outside of the University academic program is sufficient to offer extensive community service. The need for technological training has never diminished in the Houston area or in any other highly industrialized area throughout the United States. Withdrawal of vocational training support by the federal government has created a void in the entire community which could be met to a large degree by personnel in the School of Technology. It does appear that a most useful service which could be rendered by this group could come from its operation of a full-time Institute of Vocational Training.

Psychology

The educational backgrounds in this department reflect training ranging from chemistry to government. Specializations in guidance and counseling and educational psychology blend well with

the overall need to involve highly trained personnel in the study of psychological conditions associated with high crime rates and persistent drug abuse in the minority community. Work experience of the surveyed group reveals that members of the department have been involved with private practice. The need to identify problem learners among school aged children can well be serviced by the group of people assembled in this one department. Many problems dealing with the ethnic nature of the minority community relative to its neighbors can be more than adequately defined and reasonable solutions can be sought by this group. The group psychologists in this department should be involved with the adjustment problems of the minority business structure. At this point, at least half of the staff has served in consultant capacities and rendered public service in the areas of human relations, the operation of drug abuse clinics, and with international relationship bodies.

Mathematics

One of the most amazing resources shown to be available in the Mathematics Department is language proficiency. Over 68 percent of the faculty in this department read and speak fluently one or more foreign languages. In the Houston area, the need for bilingual education is almost critical. Yet nothing in the tabulated results of the survey for this group indicates that the resource potential here has ever been tapped to meet the need.

The educational concentration other than mathematics in this group shows a heavy concentration in the physical sciences. The combination of physical science training and mathematical training portrays a group of eminently qualified professionals to support the highest level of technical research. More than 30 percent of the faculty group has published articles and books on mathematical techniques and applications. Notably lacking is a significant number of persons in this group with computer related experience or training. If the curricula in mathematics at Texas Southern are to keep pace with the business demands, this situation will require immediate attention.

African Studies

Until recently, most higher learning institutions have been unable to contribute in any significant way to the cultural make-up of America's 22,000,000 plus Black citizens. For many years, Black citizens have pursued life in this land without the relevant knowledge of black culture in relationship to world culture. Not only does the course work now offered by the University in African Studies concentrate on filling the void that previously existed, it further serves to enhance the achievement goals of black aspirants and the search for understanding by non-black.

Pharmacy

Texas Southern University's School of Pharmacy has been a source of pride to the University since its inception. Over 58

percent of the pharmacy faculty have doctorate degrees. Additionally the organizational affiliation of the pharmacy faculty shows that the group assembled is in the mainstream of pharmacy technology. One of the projected program involvements for the University in the community is in the area of clinical pharmacy as an adjunct to health care. If such were to occur, the School of Pharmacy would be capable of exercising the required leadership.

School of Business

Intense competition for retail markets for capital goods and services has crystalized the relevancy of qualitative knowledge in the areas of

(1) Advertising
(2) Marketing
(3) Inventory Control
(4) Cash Forecasting
(5) Operations Management
(6) Economic Analyses
(7) Business Law
(8) Accounting

For minority business operators, competition has been felt due to the invasion by white operators into business areas which were once considered captive. To a degree the advancement of minority rights has brought the search for new markets into the core of minority communities. In order to meet competition,

minority business operators are becoming more aware of the fact that only through use of most saleable business techniques will their best interests be served. The Texas Southern University School of Business is at present well staffed to teach persons seeking business careers and provide sophisticated training needed by long established business operators. Already the track record in the School of Business in academic and public service is well established. Vitally needed services in areas such as consumer information, family financial management, and personal investment can be served quantitatively and qualitatively by the School of Business faculty.

Law

Legal considerations touch all aspects on human endeavor. In many situations, points of law are the criteria for decision making. Outside of its instructional program, Texas Southern University is currently involved in a program of providing legal service to the community. The law program in the University has, in the past, continually provided quality legal training to aspiring law professionals. This history of academic success, coupled with the success of the School's effort to extend itself into community service, projects the School of Law as a successful model of the desired posture for interfacing [illegible]emic and service programs. The faculty in the School of Law is composed of individuals whose service record outside of university life reveals concentrated

exposure to broad based areas of law practices. Notably lacking in the School of Law is personnel whose educational training extends beyond the social science area.

Biology

Health services and other life science needs have been identified as potential areas of involvement by the University. Clinical operations under the direction of faculty members of the Department of Biology could contribute to the advancement of research to combat health problems such as:

(1) Water Pollution Control
(2) Cancer
(3) Sickle Cell Anemia
(4) Air Pollution Control
(5) Rodent and Pest Control
(6) Infant Care and Development
(7) Occupational Health Safety
(8) Environmental Ecology

The research, public service and teaching backgrounds of the faculty in this department suggest that expanding the service and academic programs of the University to deal with the listed problems can be adequately accomplished. Some attention should be given to adding faculty experienced in the area of physics.

School of Education

The School of Education has the highest concentration of doctoral degrees (68%) among the several schools within the University. The School of Education publishes at a higher level than any other school in the University. The number of organizational memberships, public service involvements, and varied work experiences suggests that members of this faculty are deeply involved in both educational dialogue and the community. Analysis of faculty qualifications seems to indicate that the best possibility of offering a doctoral program at Texas Southern is within the field of education. Special emphasis should be given regarding the quality of the School of Education's faculty.

Bureau of Labor Statistics Data on career opportunities seem to suggest that drops in population growth have lessened the demand for new teachers. Inversely, the demand for specialization in the field of education has opened new career opportunities for people with some teaching experience. If the direction of the School of Education is aimed at up-grading teaching skills and advanced degree programs, it appears that the School of Education can make significant contributions to the training of educators and educational researchers.

Government

Mass communication, rapid transportation and relatively unrestricted mobility have been contributing factors to the expansion of government into almost every avenue of human life.

The highly complex international government relationships impact simple forms of community life. Understanding of government structures and regulations are essential to any impact planning effort. Forty-three (43) percent of Texas Southern's Government faculty have doctoral degrees. Six foreign languages are spoken and read within the department. These skills reflect the capacity to conduct significant research in the field of government and public documented research findings. In addition, the educational training of this faculty may be a valuable resource for planning impact programs and liaison programs between government and the community.

Chemistry

The influence of chemistry on the quality of life is not without significance. The Texas Southern University Chemistry Department has continuously engaged in meaningful research for the past ten (10) years. Still there is much needed research in the areas of

(1) Petroleum
(2) Metallurgy
(3) Air and Water Quality
(4) Chemotherapy
(5) Energy Sources

The Department of Chemistry personnel has the training and experience skills to assist in attempts to develop solutions to

these problems. It also appears that expanding the faculty and maintaining the existing percentage of doctoral faculty would yield the capability to offer a doctoral degree program in chemistry.

Home Economics

Predicted priorities for community nutritional programs were made on the basis of existing faculty qualifications and the assessment of community needs as reported by research surveys. Consumer demand for information and service is high in the following areas:

(1) Diet Quality

(2) Food Service Management

(3) Selective Food Buying

(4) Food Distribution to Indigents

(5) Food Supply and Demand

(6) Food Preparation

The Texas Southern University Home Economics faculty has the needed skills to serve these demands.

.. FACILITY RESOURCES ASSESSMENT

Data generated in the study show that Texas Southern University has ample room to expand its operations. This expansion is based on a fourteen (14) hour work day with the present enrollment and scope of operations. (See Appendix C-1) This is a static assessment and does not take into account predicted repair and replacement in relation to the present rate of expansion. Moreover, this assessment does not take into account present space allocations and the need for reallocation of spaces for supportive services.

The present space utilization is estimated at a flow rate of eighty (80) percent capacity for six hours per day. Maximum traffic flow can be achieved at a rate of eighty (80) percent capacity for eight hours a day without requiring reallocation of spaces for supportive services for most of the facilities. For selected facilities, the rate diminishes dramatically if the operation is expanded to a fourteen hour day.

During the last five years, Texas Southern University has added only slightly more than 100,000 square feet of new space. During this same period, enrollment has almost doubled. For specific units in the University, such as the Law School, the lack of space has reached crisis proportions. When the space acquisition rate is compared to the predicted repair and replacement needs, it is apparent that facilities are the most deficient resource within the University. For example, it is predicted that 78

percent of the existing campus structures will either need major repair or replacement within the next twenty-five (25) years (See Appendix C-2). At the present rate of new space acquisition (which is fourteen (14) percent, every five years) new space gains will not be sufficient to match needed replacements.

Not only is space a problem at Texas Southern University, but location is presently and equally as problematic. This institution, like many other urban institutions, is locked into its present boundaries by the growth and development which surrounds it (See Appendix C-3). To acquire land for expansion to the east, north and west would be costly, if not prohibitive. Scattered site development for selected types of educational units, such as the Urban Resources Center, Continuing Education and the School of Technology, among others may represent the alternative to over congestion of the present land area.

The problem of space allocation represents another dimension of the problem. Presently, non-instructional programs and operational units do not compete for space with the academic programs. It is evident that the present pattern of allocation favors instruction. The following existing permanent University space allocations will support this observation:

1. Instructional Space - 313,247 square feet
2. Organized Research Units - 0 square feet
3. Administrative Space - 47,744 square feet
4. Classroom Laboratory Space - 114,947 square feet

It should be noted that this list lacks space specifically designated for research, development, or public service. These space requirements are now satisfied through the dual utilization of other spaces. With the predicted human resource capability of greatly expanding these functions of the University, the competition for uses of space can be expected to increase rather dramatically.

The lack of space seems to manifest itself in a corresponding lack of equipment. Calculating, audio-visual, physical training, and communications equipment is lacking in sufficiency in most areas. Inventory records show that where such equipment is present and has been damaged, it has not been replaced in a reasonable time span. Moreover, enrollment data, when compared to inventory records, tend to indicate that the need for light equipment in the physical sciences area far exceeds the available supply.

In order to service the programs which are forecasted in this study and for which there is available the necessary human resource capability, some attention must be given to the following:

1. Increased maintenance spending is needed to preserve the usefulness of existing facilities. (See Appendix C-4)

2. To support the cost of expanding its boundaries the University must have broad support from government, private foundations, and individuals. Land grants and gifts must be pursued.

3. Each new program added to the University should be self-supporting in terms of space allotment, except where new programs result from a reallocation of existing human and non-human resources.

4. More detailed attention in the University budget must be given to expanding the inventory of equipment. Existing libraries must be expanded.

The adequacy of facilities for specified functions along with the low priority given to maintenance as reflected in the budget appropriations place the reassessment of resources for facilities as a very high priority for most units of the University. However, the most recent additions such as Home Economics, Business and Pharmacy have facilities and equipment that are adequate for the present enrollment and program operations.

Finally, it must be noted that although the support for maintenance of facilities and equipment is minimal, with the resources available most of the buildings are reasonably well kept and should be of considerable service provided that maintenance can be increased and renovations initiated where needed. Selected areas of the University will require special attention to maintain the usefulness of the facilities. Despite the facility shortcomings in the University, its programs are served remarkably well through the ingeneous use of existing, but limited facilities. The crucial issue is that the present potential of the University is only minimally achieved within these constraints. Programmatic projections that are within the human resource capability of the institution will have difficulty achieving fruition within these limitations.

VI. PROGRAM PROJECTIONS

Program projections presented in this section are based on the present human resource capability of the institution. Consideration was given to the availability of human resources as distinguished from the present pattern of resource utilization.

In a few notable instances, evidence of Texas Southern's ability to broaden its operations are quite visable. Within the last six years the following programs have been instituted at Texas Southern:

1. The Child Development Associate Program
2. Small Business Development Center
3. Urban Resources Center
4. The Preventive Law Center
5. Head Start Leadership Development Program

All of these programs have been well received by persons involved. Additionally, career guidance, cultural and public information programs are conducted with considerable frequency at the University. The success of these programs indicates that such special services can be handled by the University.

For the future, no foreseeable human limitations will curtail the trend that is now evident. Earlier, programs which the University might engage in were identified. Forecasted budget trends seem adequate to allow limited participation in these programs. Even with limited participation, tremendous benefits can be realized and

great initiatives started through University involvement. The remaining text in this section will deal briefly with what the University's role in these programs might be and what gains should be expected.

University Operated Health Service

Because there is intense need in the surrounding community and there are ample resources within the University, a health program under the guidance of Texas Southern University staff personnel should be the top priority program under consideration by the University. This is supported by the fact that located within the Houston metropolitan area are some of the finest medical research facilities to be found in the nation. Specifically reference is made to the following:

1. Baylor College of Medicine
2. Texas Children's Hospital
3. University of Texas Dental School
4. University of Texas School of Medicine (Galveston)
5. M.D. Anderson Cancer Institute
6. Texas Women's University School of Nursing

The potential for Texas Southern University to become involved as a field research agency with any of the institutions seems overwhelmingly clear. With drug abuse, crime and veneral disease being rampant in the Houston community, the need for additional health programs are essential.

Extensive consideration should be given to the creation of a Community Health Service and Research Institute by Texas Southern. The agency should deal with the following health problems:

1. communicable disease (research)
2. health safety standards
3. drug education and therapy
4. co-ordination of comprehensive community health services
5. children's health care
6. community health facilities
7. health information distribution
8. research and development

It would be expected that the following departments would play a vital role in establishing such an institute:

1. Pharmacy
2. Law
3. Biology
4. Chemistry
5. Business Administration
6. Physical Education

It should not be assumed that Texas Southern University's staff and facilities are presently adequate for the total operation of these services. It is expected that the University would in most instances provide the leadership and stimulus to activate private programs which address the areas listed. Furthermore, it is expected that from the proposed Community Health Service and Research Institute valuable research and information will be made available to institutions more directly concerned with the application of health services.

University Operated Crime Prevention

The incidence of crime has been a major source of concern throughout the nation. Programs in many communities have had spotted success in dealing with reducing crime statistics. However, no single program has enjoyed unilateral success in attacking crime. What appears to be needed is massive citizen deterant actions and intolerance of the legitimate social elements of the slightest deviations from lawful conduct. Texas Southern University's role in dealing with these problems has been assessed from the standpoint of operating a Crime Deterant Mobilization Center. The purposes of this center would be

1. Involving the community in crime prevention
2. Co-ordinating crime prevention efforts in existence
3. Providing counseling service for juvenile criminals
4. Providing training for law enforcement units
5. Conducting and publishing research related to crime patterns and crime prevention

The following Texas Southern University departments would be expected to provide leadership in the development and operation of a Crime Deterant Mobilization Center:

1. Sociology and Economics
2. Law
3. Government
4. Education
5. Business Administration

The center would be expected to focus on massive community action and co-ordination between enforcement bodies.

Neighborhood Planning Service

The need to bring about orderly physical changes in urban communities is critical. An agency which will involve the skills of social planners, architects, engineers, and government is needed in every urban community. The need for systematic changes must be addressed if the patterns of ruin which threaten every American city are to be halted. Already at Texas Southern, the Urban Resources Center has begun to move in the direction of providing skilled leadership in the attack on urban blight. This effort should be enhanced and broadened to provide the following services:

1. Transportation systems analyses
2. Flood control analyses
3. Density control analyses
4. Building code analyses
5. Traffic control analyses
6. Recreational planning
7. Educational service planning
8. Neighborhood zoning analyses
9. Public works analyses
10. Environmental impact analyses
11. Housing planning

The usefulness of a total urban planning agency must be assessed in terms of the type of problems it can deal with from the social, aesthetic, and technical points of view. The disciplines within the University that can assist in meeting this criteria are:

1. School of Technology
2. School of Law
3. Department of Economics and Sociology
4. School of Education
5. Department of Mathematics
6. Department of Psychology
7. Department of Biology
8. Department of Chemistry
9. Department of Health and Physical Education
10. Department of Government

It is not expected that personnel from each of the University's academic areas listed will participate in the proposed urban planning effort on a full-time basis. It is expected that each of the disciplines will play a strong consultant role in the urban planning effort.

Business Development Center

Already, the Small Business Development Center is one of the most potentially effective agencies at Texas Southern. The resources needed to assist small business operators in developing profitable businesses can be made available through this center. Additional funding for the agency to expand its service is needed.

Academic Program Expansion

The quest for academic training is ever expanding. Technological advances continually call for new specialties. The programmed expansion of Texas Southern's academic service will require approximately thirty-nine (39) million dollars in new construction and equipment (see Appendix A-3). The U.S. Bureau of Labor Statistics Data and published reports all indicate that planners, engineers, architects, and data processing specialist are expected to be in the forefront of activities which will be needed to solve the fuel shortage, urban decay, transportation and ecology problems. Texas Southern must participate in this problem solving process. Presently, the space and personnel available in the University are inadequate to comprehensively involve the University in this program. The need for expanded services should be the justification of University expansion into forecasted areas. Several large companies recently expanding operations in the Houston area have experienced severe difficulties in filling technical positions with persons in this area. Notably some of these companies are

1. Exxon Eastern Company
2. Exxon Chemical Company
3. Shell Oil Company
4. The M.W. Kellogg Company
5. Fluor Engineering Company
6. Raymond International Company

Even with cutbacks at the Johnson Space Center, technical openings far exceed available persons. If this trend prevails, the attractiveness of the Houston area to businesses seeking to relocate will certainly begin to diminish. Expansion of the physical science program at Texas Southern may be considered vital to this community. This study reviewed a wide range of programs for involvement by Texas Southern. From those reviewed, development considerations were given to programs which the University already has some of the needed resources for implementation. Briefly noted these programs are

1. Computer Science - Almost every area of business and science is a user of computer science technology. Recently, many universities have moved to the establishment of computer and decision science programs. This direction should be evident at Texas Southern. Further, mathematics, science, or business training is incomplete without extensive computer training. Computer science training is minimally evident at Texas Southern; it is time for the University to expand these programs.

2. Marine Biology - The need to extract valuable natural resources from America's waterways has been recently tempered by the public demand that industry not destroy vital aquatic animal and plant life. Consistent with these phenomena is the need for biological specialist whose training will assist in helping to strike the desired balanced between industrial needs and marine life needs. Already the Texas Southern Biology Department has answered the challenge to give quality training in many areas of biological science. Now the challenge of offering specialized training must be answered by this department.

3. Architecture,Engineering and Urban Planning - Much of the text to this point has emphasized the need for increased physical planning. The University has offered drafting training on the degree level in this area. These programs

should be expanded to offer fully accredited architectural, engineering and planning training. The initial effort should focus on Urban Planning, Architecture, Civil Engineering, Electrical Engineering, and Urban Landscape Architecture.

4. Doctoral Degree Programming - The University's Faculty Register indicates that extensive research and doctoral training in the following departments:

    a. Education
    b. Chemistry
    c. Physics
    d. Biology
    e. Economics and Sociology
    f. Mathematics

    The University may require some minor staff reinforcements to expand its academic instruction program by offering doctoral degrees in these areas.

Governmental Research Programs

Employment, housing, transportation, nutrition, and legal impact are areas where governments most commonly attempt to upgrade personal life style. It is desireable, but not likely, that legislation affecting these areas be considered in the light of intensive research and investigation. Other agencies or institutes proposed to this point could easily support a Government Impact Research Institute. Such an institute should be able to support legislative interest with unbiased data in the areas previously mentioned. It would be expected that the institute would agressively pursue legislative research funds and draw the needed research talent from various departments in the University.

VII. FINANCIAL RESOURCES ASSESSMENT

The financial projections of Texas Southern University suggest that the University will receive insufficient state aid to carry out its hoped for program expansion unless a significant block grant is made. Assuming the University has an irrevocable commitment to its expansion plans, a much more intensive search for funds outside of state appropriations must be made. Consistent with the search for additional funds, priority must be given to the locating of funding sources which will make long duration funding commitments to the University. Funds needed to bring about physical expansion of the University must top the priority list in new fund spending (See Appendix A-3). These conclusions are based on the findings of a detailed study of the University's fiscal operations from 1968 to 1973.

During the period studied, the University appropriations from state funds showed a calculated trend of $4.6 million annually in state funds (See Appendix D-1). Examination of the trend breakdown in table D-1 reveals several pointed weaknesses in the pattern of University funding prior to the 1973 appropriations.

1. The support allocated to the University for supplies, equipment and equipment maintenance is excessively low. These meager sums of money could buy only minimal supplies and pay for repairs on office equipment. When these figures are compared to the equipment inventory, one suspects that a high degree of lost manpower is the result of equipment downtime. Clearly evident in this situation is a lack of phasing out of older equipment and scheduled phasing in of newer and more efficient equipment to the

University's inventory. Furthermore, in some instances, it appears that equipment remains in the fiscal inventory long after its usefulness has expired.

2. While some attention is randomly given to adjusting the salaries of key administrators to statewide levels, the small pay increases given to instructional and clerical personnel is below state and national standards. The average pay increase rate during the trend period (1968-1973) was 3 percent. Furthermore, although the entire nation is presently under wage controls of approximately 5.5 percent a year increases, State of Texas payrate increases have averaged 6.8 percent during the trend period.

3. The growth of Texas Southern's faculty during the trend period has not kept pace with its enrollment growth. Budget analysis shows that slightly more than 16 percent faculty growth has been made to accomodate an enrollment growth of approximately 37 percent.

4. The funds appropriated to the College of Arts and Sciences seems grossly inadequate. This situation appears to have severely hampered the University's growth in the physical sciences area. The administrative cost burden in the College could partly be relieved by breaking the College up thereby producing a smaller unit.

5. The growth in funding of the Music Department seems inconsistently high when compared with the funding growth patterns of other University departments.

6. The delinquency rate of tuition loan accounts shows that careful scrutiny is not given to loan applicants nor is there a substained and/or efficient method of collecting past due funds.

7. The presence of research and development monies in the annual revenue seems sporadic. The lack of substantive funds in some areas, notably the social sciences, seems disruptive of the effort to expand the research and development work of the faculty. Research funds appear to grow in a manner corresponding to the growth of research in a particular department.

8. Generally, there does not appear to be an effort to recycle revenue within the University. The amount of funds spent outside the University for printing and illustrations

would certainly justify that some programmed effort to spend University revenue within the University be made. This may suggest a need for a fully staffed University press.

9. The last observation made from analysis of the fiscal revenue is one that the University must aggressively refute in the ensuing years. The general pattern of state appropriations in the past has been that of maintaining the status-quo. It is felt that this cannot be considered a problem unique to Texas Southern. Department of Health, Education and Welfare data confirm that the State of Texas with all its vast natural resources and sophisticated industries does not support education as vigorously as many smaller states or many states with less taxable revenue. An appeal to the pride of the State of Texas is called for in demanding a higher degree of state support.

Based on results from the five-year trend calculations, the Texas Southern University Twenty-Five Year Fiscal Forecast was developed. This deals only with state appropriations (See Appendix D-2). It is predicted that during this period the occurence of research and development monies will be at a rate of .96 to 1.23 times the state appropriations. To maintain the predicted level of development, the forecast fiscal appropriations show that the need for state funds will be three (3) times greater at the end of the forecast period than the present trend. This observation is significant in that the normal annual increase pattern is not sufficient to reach the required appropriation level. The forecast further shows that the need for increased state funding will be in the Administration of the University and in the College of Arts and Sciences. Based on current trends, the figures show evidence of the deterioration of funding for the Schools of Law, Pharmacy,

and Business. Although each of the schools mentioned show predicted increases in each forecast year, there is a 2.6 percent drop in the rate of increase. In the case of the School of Law, this trend is more undesirable than in the other schools. The need for expanded law libraries and the continuous need to keep law faculty salaries consistent with those of practicing attorneys will demand a much more aggressive funding pattern. Consistent with this observation is a seemingly high turnover rate among younger faculty members in the School of Law.

Funding priorities at Texas Southern during the twenty-five (25) year period should reflect the following emphases:

1. Undergraduate Education
2. Physical Expansion
3. Research and Development
4. Community Development
5. Undergraduate Program Expansion
6. Master's and Doctorate Program Expansion

The priority prediction is based on the consideration of steps deemed necessary for the University to move from one point of expansion to the next.

The University must not relinquish its position of academic quality. The largest source of revenue within the University is undergraduate tuition. For this reason, the University can ill afford to place this revenue in jeopardy by expanding in other

areas at the expense of the undergraduate program. Equally important is the fact that expanding enrollment--a situation which must be looked upon as being caused by community respect for the University's educational program--will generate the demand for other forms of University expansion.

Physical expansion will necessarily accompany enrollment expansions. Physical expansion must be planned not only to handle immediate needs but must consider other University expansion plans. In seeking state funds for expansion, there is a clear justification resulting from crowding due to enrollment increases. Once funding is approved every effort must be made to see that additional buildings consider non-instructional needs.

Expansion of research and development can be foreseen with the expansion of space and faculty. Monies must be spent by the University to insure that efforts in this area have a visible effect on items one (1.) and two (2.) of the funding priority list. It may be considered redundant to separately list research and development and community development, however, the former is considered a high priority item because of its potential to generate industrial funding in the University. Industrial funding was found present in the least portions than any other type of funding. Expansion of the University academic programs--items five (5.) and six (6.)--are considered axiomatic consequences on capabilities generated through prudent spending in items one (1.) through four (4.).

The funding priority list is not considered mutuably exclusive. Every effort must be made to maximize funding. It is certainly expected that the spending of monies for one specific purpose will contribute to meeting other goals.

Funding resources traditionally available to universities are

1. Individuals Gifts and Endowments
2. Industrial Research Grants
3. Foundation Grants
4. Government Grants
5. State Appropriations

The order in which these resources are listed may be loosely considered a funding resource priority. The only priority assessment made in this study was based on a determination of the frequency of occurence of each resource in the University's revenues. From the frequency evaluation, the list shown is in ascending order of dollar value. The only conclusion that could be drawn from this list is that more effort is needed to increase the amount of University revenue in the higher priority items. It must not be construed that the list suggest a priority in intensity of effort. Certainly, it must be expected that equally intense efforts to secure individual gifts and state funds will not yield equal results.

In summary, it must be stated that the quantity of funds available to Texas Southern University is one of the key elements for

measuring the University's ability to serve community needs. More importantly, however, the manner in which available funds are spent will dictate the success of whatever expansion occurs.

VIII. IMPLICATIONS AND RECOMMENDATIONS

Implications

One assumption underlying this study was that in operating the model no consideration was given to the influence of massive changes existing in the University. Involvement in the community is now prominent within the University. Community focused programs now in operation deal with

1. Business assistance to small business operators
2. Legal advisory and assistance to the indigent
3. Urban mobilization and coordination
4. Child care and development
5. Pharmacy and drug education
6. Urban education

The impact assessment on University operations by future program implementation may, to a very limited degree, be judged by the impact of existing academic operations. Programs now in effect which are outside of the academic sphere offered the following observed effects:

1. Existing programs do not detract from the space requirement of academic programs. The relationship is particularly harmonious when it is considered that the daily operational period of these programs overlap. With expansion of University programs

planned in academic and public service areas the quality of the space relationship between the total programs will begin to diminish. Even with expansion of University physical space, the competition for space between the two program types could become intense. Relief from this competition could be found in the addition of new space paid for by new programs that are brought into the University.

2. Programs which take the University outside of its academic perimeter create support for the University from persons or groups that may otherwise be hostile toward the University's community efforts.

Recommendations

1. The University must view as one of its primary responsibilities the task of widely disseminating information concerning its public service efforts. Without this effort the activities conducted by the University could become looked upon with suspicion and contempt.
2. A well coordinated effort to attract sufficient research grants to achieve an appropriate balance between research and demonstration activities should be launched. The higher overhead generated could relieve the critical stress evident in Fiscal Management.

3. If historical precedents prevail, Texas Southern University may have to be more prudent in the expenditure of educational funds than comparable predominantly white state institution allocation of these funds, for programs must involve considerations of

   (a) Individual integrity

   (b) The production of programs in operations

   (c) Cost cutting mechanics (only to the extent that program efficiency is not impaired)

   (d) The attitude of program beneficiaries toward programs and their operators

4. Statistically, the more affirmative characteristics of program changes are considerably greater than the potential negative aspects. The most influential factor in determining whether or not goals can be fully realized, will be the availability and flow manner of priority funds. If funding problems are severe enough at any point in development to influence program operations, priority should be given to programs already in operation as opposed to new programs, except that new programs result from reallocations of the existing human resources potential. The decision making processes involved in making a determination should require certain step by step evaluations. A suggested checklist may consist of the following:

(a) Academic programs must be of the highest level of priority. Accreditation of academic programs should not be placed in jeopardy.

(b) Prior to making decisions on funding and subsequent to insuring quality in the University academic programming, a detailed analysis of existing outreach programs must be conducted. Concerns in this evaluation must be for the productivity of outreach type programs. It was indicated that five years was assumed to be the expected duration of full mobilization. Realizing that most costs expended in this period will have low productivity expectations, care must be taken to insure that commitments made during this period will not be subject to budgetary constraints during the same period. If such care is not given, mobilization may be seriously weakened, thereby reducing the potential of the overall development and expansion plans.

(c) Calculated results show that building costs may be high. Prudent use of resources dictate that more consideration be given to preventive maintenance, care of buildings and specialized equipment. Intense efforts to enhance the inventory of buildings and

equipment through contributions outside of normal budget increases to be channeled largely into human and service resources. Efforts to secure additional facility resources from one time only funding resources may yield the best possible university dividends from these monies.

(d) Existing academic faculty requirements should be fulfilled with considerations for planned needs. Faculty data surveyed indicate that in many instances persons are filling academic requirements in areas related to, but not topping fully, their educational specialties or experiences.

(e) Planned needs must be met without fire drill efforts to recruit persons to meet those needs.

(f) The University may capitalize on fluctuating low industrial demands in certain technical and professional skill areas.

(g) By exposing University expansion plans to perspective faculty during interview sessions, available faculty positions outside of an individual's speciality may be more attractive to the individual if he can link the position for which he is under consideration with potential mobility in other areas.

(h) Versatility within the faculty gives the plans for development more depth and flexibility.

5. Programs which can absorb student talents should receive priority considerations for the following reasons:
   (a) Substantial personnel salary saving could be realized.
   (b) In the social science areas, involvement in community projects could provide enhancement of on-campus academic training. In some of the special services now being carried out on campus this type of involvement is in effect. Indications are that the programs and the students are mutually enhanced.
   (c) Student demands for relevant training could be realized to some degree by involving them with community development projects.
6. The University's potential involvement in more substantive community work so that the faculty and staff might concern themselves with such things as community health problems, community housing problems, community transportation problems, family management problems or business development problems is significant from the data examined.
7. The University has strengths that should be utilized, but in concert with other institutions. It is not realistic for Texas Southern to view itself as a source of relief for all problems in the community. Some of the problems require manpower skills that are not presently in the University. Involvement in such activities could weaken rather than strengthen the University's mission.

8. The University must be more aggressive in pursuing funds from the state (its primary source of funding), from all levels of government, and from private foundations for a multiplicity of purposes. Summarily, it might be stated that the prevailing criterion in University priority assessments must be on the basis of options which offer the maximum contribution to the enhancement of competence. The potential to influence the life style of the Houston community should become more than a high priority by-product of University involvement. Through its regular college work programs as well as through supplemental programs, the University must be able to identify and implement programs which upgrade the educational and vocational skills of minority workers. It must be able to anticipate and project the needs of both the private and public sectors in terms of the restructuring of skills that will be called for in the future. Equally important is the preparation of minorities for professions in which they are presently under represented. Maximum benefits will be realized from programs which demonstrate conceptual pattern that can be applied to improve community circumstances throughout America.

APPENDICES

APPENDIX A-1

FACULTY VITAL STATISTICS

Average Faculty Age (years)	Mean Faculty Age (years)	Average Faculty Tenure (years)
41.3	39.5	8.52

APPENDIX A-2

PROGRAMS CONSIDERED FOR TEXAS SOUTHERN EXPANSION
(based on need and level of minority representation)

Priority	Major Category	Minor Category	Cost	Implementation Period
1	Social Science	Criminology	$ 250,000	1.0
		Political Science	40,000	0.5
		Psychology	50,000	0.5
		Guidance and Counseling	50,000	0.5
		Urban Planning	210,000	1.5
		Labor and Industrial Relations	150,000	1.0
		Law	200,000	0.5
		Government Relations	120,000	0.5
2	Health Services & Life Science	Respiratory Therapy	420,000	
		Medical Technology	190,000	2.0
		Health Care	180,000	1.0
		Food and Nutrition	190,000	0.5
		Pharmacy	175,000	1.0
		Bio-Chemistry	75,000	0.5
		Marine Science	64,000	1.0
		Physical Therapy	300,000	2.5
		Recreation	240,000	2.5
		Internal Medicine	2,250,000	4.5
		Child Development	71,000	0.5
		Agriculture	180,000	1.5
3	Technology	Architecture	400,000	2.5
		Engineering	750,000	2.5
		Wood Technology	70,000	1.0
		Bricklaying	81,000	1.0
		Computer Science	500,000	2.5
		Plumbing	140,000	1.0
		Drafting	120,000	1.0
		Electronic	400,000	1.0
		Geology	150,000	1.0
		Physics	150,000	1.0
		Automotive Technology	90,000	1.0
		Printing	45,000	1.0
		Tayloring	30,000	1.0
		Photography	22,000	0.5
		Mathematics	100,000	0.5

(CONTINUED)

APPENDIX A-2 CONTINUED

Priority	Major Category	Minor Category	Cost	Implementation Period
4	Business Science	Labor & Industrial Relation	$150,000	0.5
		Operations Research	50,000	
		Advertising		
		Accounting	38,000	
		Marketing		
		Finance		
		Economics		
		Office Administration	15,000	
5	Cultural Development	Music	20,000	0.5
		Art		
		Language		
		History		
		Ethnic Studies		
		Reading		
		Philosophy		
		Literature		
		Library Science	35,000	0.5

APPENDIX A-3

TEXAS SOUTHERN UNIVERSITY FORECAST OF PROGRAM EXPANSION
(based on need - cost - available funds)

Priority	Program	Cost*				Space Required (Square feet)
		Administrative	Operational	Maintenance	Total	
A	Community Health Services and Research Institute	$ 400,000	$1,200,000	$ 80,000	$1,680,000	48,000
B	Crime Deterant Mobilization Center	150,000	470,000	30,000	650,000	31,000
C	Neighborhood Planning Service	100,000	310,000	20,000	430,000	25,000
D	Business Development Center	40,000	135,000	8,000	183,000	------
E	Academic Instruction Expansion	------	------	------	------	**
F	Governmental Research Institute	480,000	1,500,000	96,000	2,076,000	------
	TOTALS	$1,170,000	$3,615,000	$234,000	$5,019,000	

*Programs were considered on the basis that Texas Southern would have available from the 1974-1975 school year $8,125,000 for research, development and community service and that this amount would increase at the rate of 12% per year.

**See Appendix A-4.

APPENDIX A-4

FORECAST OF PERSONNEL AND PHYSICAL EXPANSION

Program	Personnel Required (New)	Space Required (Sq.Ft.)	Cost Space - Personnel	Equipment Evaluation	Total Cost
Architecture*	50	93,000	$1,875,000	$ 125,000	$ 2,000,000
Biology	10	31,000	610,000	75,000	685,000
Chemistry Physics	18	115,000	2,201,000	430,000	2,631,000
Engineering*	45	200,000	4,204,000	1,250,000	5,454,000
Decision Sciences & Technology*	50	150,000	4,100,000	2,500,000	6,600,000
Education	15	150,000	3,500,000	750,000	4,250,000
Economics & Sociology	11	30,000	610,000	50,000	660,000
Dormitories	--	450,000	9,000,000	1,500,000	10,500,000
Administration	--	250,000	5,225,000	1,000,000	6,225,000
Libraries	--	75,000	400,000	--	

*New Programs.

APPENDIX B-1

CLASSIFICATION OF
TSU FACULTY TEACHING EXPERIENCE
BY DEPARTMENT AND ORGANIZATIONAL LEVEL

College or Department	Administration	Pre-School	Elementary	High School	College or University	Vocational	Other
Art	1	-	-	5	5	-	-
Biology	6	1	-	4	16	-	-
Business	10	-	-	11	26	-	-
Chemistry	2	-	-	2	4	-	-
Education	12	-	7	28	33	1	-
English	11	-	9	26	30	-	-
Government	-	-	-	3	7	-	-
Headstart Program	5	1	1	8	20	-	-
Health & Physical Education	2	-	1	6	8	-	-
History & Geography	-	-	-	2	8	-	-
Home Economics							
Languages	2	-	3	8	8	-	-
Law	3	-	-	2	8	-	-
Mathematics	4	-	-	7	16	-	-
Music	4	-	-	10	11	-	-
Pharmacy	4	-	-	-	11	-	-
Physics	-	-	-	2	4	-	-
Psychology	2	-	1	7	8	-	-
Reading	2	-	-	3	3	-	-
Sociology & Economics	7	-	-	7	15	-	-
Special Services	-	-	-	4	4	-	-
Technology	8	-	-	16	20	-	1

Appendix B-2

TEACHING EXPERIENCE

AFRICAN STUDIES

A. Elementary & Secondary
   - African Studies
   - Math
   - History
   - English
   - Geography

B. Higher Institutions
   - Psychology

C. Education Administration
   - Supervisor Student Center
   - Administrator of College

ART DEPARTMENT

A. Elementary & Secondary
   - Home Economics
   - English
   - Art
   - General Science
   - History

B. Higher Institutions
   - Home Economics
   - Art
   - Weaving
   - Humanities
   - Music Education

C. Educational Administration
   - Department Head

BIOLOGY DEPARTMENT

A. Elementary & Secondary
   - Biology
   - Physical Science

B. Higher Institutions
   - Bacteriology
   - Biology
   - Microbiology

Biochemistry
Genetics
Heredity Evolution
Pharmacy
Life Sciences
Agriculture
Zoology
Embryology
Medical Technology
Biochemical Research
Mycology

C. Educational Administration
Director of Cost Program
Educational Coordinator
Coordinator for Freshman Biology
Department Head
Dean, Pharmacy
Director Health Programs

BUSINESS

A. Elementary & Secondary
Vocational Education
Business
Spanish
English
Chemistry
Math
Shorthand and Typing

B. Higher Education
Business Research
Business Law
Business Education
Office Administration
Personnel Management
Labor Problems
Graphics
Computer Programming
Quantitative Business Analysis
Statistics
Economics
Marketing
Production Management
Business
Accounting
Finance
Operations Research
Math
Commerce

C. Educational Administration
Administration Assistant
Director, Training
Acting Department Head
Department Head
Fiscal Budget Officer
Client Service Officer
Acting Director, Admissions

CHEMISTRY DEPARTMENT

A. Elementary & Secondary
Physical Science
Chemistry

B. Higher Institutions
Chemistry

C. Educational Administration
Department Head
Medical Advisor, Curriculum Planning
Director, Five College Consortium Program

DEVELOPMENT OFFICE

A. Elementary & Secondary
History
Business
Typing
Reading
Spanish
Social Studies
United States History

B. Higher Institutions

C. Educational Administration
Director of Development

EDUCATION DEPARTMENT

A. Elementary & Secondary
Reading
English
Physical Education
Chemistry
Math
French
Social Science
Art

African Studies
General Science
History
Music
Home Economics
Biology
Science
Vocational Education

B. Higher Education
Reading
Methods
Research
Preschool
Physical Education
Education
Psychology
Statistics
Social Science
English
History
Art
Government
Biology
Math
Music
Religion
Philosophy
Job Training
Urban Education
Open Concept Classroom
Upward Bound

C. Educational Administration
Project Director
Dean
Department Head
Coordinator, Student Teaching
Director, Teacher Corps
High School Principal
Vice President, University
Administrative Assistant
University Minister
Assist Director, Staff Center Urban Ed. Assoc.
Director, Summer School
Project Evaluator
Coordinator, TTT Project
High School Assistant Principal
Registrar

Director of Testing
School Superintendent
Assistant Director, Teacher Corps
Director, Teacher Education
Black Curriculum Development
Counselor

ENGLISH DEPARTMENT

A. Elementary & Secondary
English
History
Journalism
Art

B. Higher Education
English
Economics
Humanities
Public Speaking
Speech
Drama
Library Science
World History
World Literature
French
Education

C. Educational Administration
Coordinator, Federal Projects & Special Programs
Department Head
Director, NDEA Institute
Assistant Dean
Academic Advisor
Language Arts Coordinator
UH Administrator to Instructional Television
Assistant Principal
Dormitory Director
Counselor

FIVE COLLEGE CONSORTIUM PROGRAM

A. Elementary & Secondary
Mathematics
Carpentry

B. Higher Instruction
Mathematics
Industrial Education
Carpentry

C. Educational Administration
Chairman, Teacher Training in Industrial Education
Director, Division of Trades and Industries
Coordinator, Industrial Relations

FOODS & NUTRITION (HOME ECONOMICS)

A. Elementary & Secondary
Home Economics
Mathematics

B. Higher Institutions
Home Economics Education
Household & Assistant Home Management
Home Economics
Related Art

C. Educational Administration
Acting Head, Home Economics Department
Public School Supervisor
Director of Division of Home Economics
Supervisor, New Homemakers of America
Department Head, Family Economics
Assistant Supervisor, Nursery School

FOOD SERVICE

A. Elementary & Secondary
English
Nutrition

B. Higher Institutions
Apprenticeship
Exercise Class (Air Force)

C. Educational Administration
Assistant Records Manager
Speech Therapist

FOREIGN LANGUAGES

A. Elementary & Secondary
Spanish
French
English
German
Latin

B. Higher Institutions
Spanish
French
English
German

C. Educational Administration
Lab Director
Parent Counseling
Counselor (NYC Welfare CHildren's Clinic--Non-english speaking youth)

GOVERNMENT

A. Elementary & Secondary
German
Swahili
African Studies

B. Higher Institutions
Investment Symposium
Current International Issues
Political Science
Government
Swahili
American Government
Politics in Black America

C. Educational Administration
Acting Chairman, Government Department
Scientific Assistance at Central Library (German University)
Chairman, Black Studies Curriculum

HEADSTART (LEADERSHIP DEVELOPMENT PROGRAM)

A. Elementary & Secondary
Special Education
Home Economics
Chemistry
English
Biology
Physics
Preschool

B. Higher Institutions
Elementary Learning
Biology
Chemistry
Teacher Laboratory Nursery School
Home Economics
Education
Adult Education

C. Educational Administration
   Vocational Adjustment Coordinator
   Assistant to Coordinator
   Coordinator
   Curriculum Director
   Department Head
   Director, Child Development Laboratory
   Assistant, Regional Training Office for Headstart
   Southwest Education Development Laboratories
   Board Director (Holy Cross High School)
   Educational Program Coordinator

HEALTH & PHYSICAL EDUCATION

A. Elementary & Secondary
   Physical Education
   Health Education
   Math
   History
   Science

B. Higher Institutions
   Biology
   Health Education
   Educational Psychology
   Educational Measurement
   Statistics
   Physical Education
   Dance

C. Educational Administration
   Department Head
   Physical Education Coordinator

HISTORY & GEOGRAPHY

A. Elementary & Secondary
   History
   Social Studies

B. Higher Education
   Air Force ROTC
   Air Science
   American History
   History

C. Educational Administration
   Department Chairman
   Dean of Students

INSTRUCTIONAL MEDIA

A. Elementary & Secondary
   English
   Speech

B. Higher Institutions
   Education
   Auto Mechanics
   Electricity

C. Educational Administration
   University Audio-Visual Consultant
   Assistant Director, Instructional Media

LAW

A. Elementary & Secondary
   English
   History

B. Higher Institutions
   Corporation Law
   Wills
   Property Law
   Law

C. Educational Administration
   Dean, Law School
   Director, Preventive Law Center

LIBRARY

A. Elementary & Secondary
   Music
   English
   Science
   Math

B. Higher Institutions
   Catalogues

C. Educational Administration
   Head Librarian
   Freshman Orientation
   Laboratory Assistant

MUSIC

A. Elementary & Secondary
   Vocal Music
   Music
   English
   Band
   Orchestra
   Instrumental Music

B. Higher Education
   Piano
   Voice
   Theory
   Music Literature
   Jazz
   Brasses
   Violin
   Music
   Rural Music
   Music Education
   Counterpoint

C. Educational Administration
   Public School Music Supervisor
   Chairman of University Music Department
   Member Lyceum Commission

PHARMACY

A. Elementary & Secondary

B. Higher Education
   Pharmaceutical Chemistry
   Chemistry
   Pharmacology
   Medicinal Chemistry

C. Educational Administration
   Department Chairman
   Dean, School of Pharmacy
   University Dean
   Curator

PHYSICAL PLANT (MAINTENANCE, TRAFFIC & SECURITY)

A. Elementary & Secondary
   Geometry
   Math
   Physical Education
   Agriculture

B. Higher Institutions
   Industrial Arts
   Basketball
   Track

C. Educational Administration
   Billing Clerk
   Purchase Order Clerk
   Dean
   Athletic Director
   Student Personnel

PHYSICS

A. Elementary & Secondary
   Mathematics
   Physics

B. Higher Institutions
   Mathematics
   Physics

C. Educational Administration
   Department Head

PSYCHOLOGY

A. Elementary & Secondary
   Special Education
   Chemistry
   Biology
   History
   Mathematics
   English
   Science

B. Higher Institutions
   Educational Psychology
   Chemistry
   Philosophy

C. Educational Administration
   Director, Counseling
   Coordinator, Special Education

READING & STUDY SKILLS CENTER

A. Elementary & Secondary
   Reading
   Physical Education
   Mathematics
   Civics

B. Higher Education
   Reading
   English

C. Educational Administration
   Director, Reading Program
   Chairman, Reading Study
   Skills Center

SOCIOLOGY & ECONOMICS

A. Elementary & Secondary
   Social Science
   Arithmetic
   Latin
   Literature
   History
   Geography
   Adult Education
   English

B. Higher Education
   Sociology
   Research
   Social Work
   Urban Ecology
   Economics
   Psychology
   Behavioral Science

C. Educational Administration
   Headmaster
   Administrative Assistant, African Studies Program
   Dean
   Department Head
   Dormitory Counselor
   Director of Research (Urban Resources Center)
   Psychiatric Social Worker

SPECIAL SERVICES

A. Elementary & Secondary
   Typing
   Adult Business Education
   Mathematics
   Home Economics

B. Higher Institutions
   Home Economics
   Home Economics Education
   Mathematics
   Computer Services

C. Educational Administration
   Department Head
   Data Process Chairman
   Administration Assistant
   College Admissions Officer
   College Director of Financial Aid

SPEECH & DRAMA

A. Elementary & Secondary
   English
   Speech

B. Higher Institutions
   Speech
   Drama Theater
   Theatre History
   English
   Drama

C. Educational Administration
   Assistant Chairman, Books & Audio Visual Equipment
   Director of Humanities
   Department Head, Speech & Drama

STUDENT PERSONNEL (COUNSELING, HOUSING)

A. Elementary & Secondary
   General Education
   Health
   Physical Education
   Elementary Education
   Fine Arts
   Reading
   Mathematics
   Home Economics
   Spanish
   Graduate Equivalency Diploma Preparation

B. Higher Institutions
   Spanish
   Education
   French
   Art
   Reading & Study Skills

C. Educational Administration
- Dean of Women
- Director of Counseling
- Director, Housing Placement
- Assistant Director, Counseling & Placement
- Veterans Counselor
- Assistant Director, Student Center
- Associate Dean
- Foreign Student Advisor
- University Psychometrist
- Dormitory Director
- Assistant Director, Dormitory
- Director of Housing
- Recreation Director
- Director, Student Center
- Assistant Dietician
- Residence Counselor
- School Counselor

TECHNOLOGY

A. Elementary & Secondary
- Drafting
- Automotive
- Mathematics
- Science
- Woodwork
- Adult Education
- Art
- Coach
- Leather
- Shop
- Social Science

B. Higher Institutions
- Typing
- Industrial Education & Technology
- Electronics
- Drafting
- Educational Statistics
- Woodwork
- Construction
- General Shop
- Carpentry
- Architectural Engineering
- Research
- Engineering Graphics

C. Educational Administration
   Department Head
   Superintendent, Building & Grounds
   Director, Coop Educational Program
   Counselor for Veterans on G.I. Bills

UNIVERSITY YEAR FOR ACTION

A. Elementary & Secondary
   Art
   History

B. Higher Education
   Art

C. Educational Administration
   Counselor
   Educational Program Manager

APPENDIX B-3

TSU FACULTY LANGUAGE FLUENCY

DEPARTMENT OR COLLEGE	FRENCH		GERMAN		RUSSIAN		SPANISH		OTHER	
	Read	Speak	Read	Speak	Read	Speak	Read	Speak	Read	Speak
Art	-	-	-	-	-	-	-	-	-	-
Biology	12	6	8	4	-	-	5	3	2	2
Business	4	2	5	2	-	-	6	4	2	-
Chemistry	-	-	3	-	1	-	-	-	-	-
Education	14	7	7	4	1	-	6	4	3	2
English	19	7	8	5	-	-	5	2	7	8
Government	3	2	3	2	-	-	4	3	2	1
Headstart Program	2	-	-	-	-	-	5	4	-	-
Health & Physical Education	3	2	2	2	-	-	1	-	-	-
History & Geography	5	3	5	3	1	-	3	1	-	-
Home Economics	3	1	1	-	-	-	1	1	-	-
Languages	6	5	5	5	-	-	6	5	-	-
Law	3	3	-	-	-	-	2	1	1	-
Mathematics	13	3	8	-	1	-	1	1	4	3
Music	7	2	4	1	-	-	-	1	-	-
Pharmacy	5	2	5	1	-	-	5	2	-	-
Physics	3	1	3	-	-	-	-	-	3	3
Psychology	4	2	3	2	-	-	2	-	3	1
Reading	1	-	-	-	-	-	1	-	-	-
Sociology	8	5	3	-	-	-	3	3	4	4
Special Services	3	-	1	1	-	-	3	3	-	-
Technology	-	-	-	-	-	-	1	1	-	1

Appendix B-4

NON-TEACHING EXPERIENCE

ADMINISTRATIVE & CLERICAL

Federal Program Director (HEW)
Clerical Assistant
Clerk Typist
Invoice Clerk
Project Coordinator
Bookkeeper
Junior Accountant
Cashier
Executive Vice President (Riverside Bank)
Payroll Clerk (University)
Land Clerk
Laboratory Technician

AFRICAN STUDIES

Mathematician
Programmer
Technical Assistant
Geophysicist
Military
Analyst
Resident Engineer
Translator

ART DEPARTMENT

Consultant in Art Field
Lecturer in Field
Stage Decoration for Production
Graphic Artist
Director Workshops
Presentation on National Television
Illustrator

BIOLOGY DEPARTMENT

Ben Taub Blood Bank
Business Management
Lab & Med Technician
NIH Cancer Research
Assistant Program Director (National Science Foundation)
TTT Project
Hospital
Technical Representative
Personnel
Hospital Research

BUSINESS

Aerospace Engineer
Executive Director (Savings Institution)
Assistant Vice President (Savings Institution)
Financial Assistant to President (Private Business)
Staff Attorney (Houston Legal Foundation)
Engineering Activities (Certified Engineering Manufacturer)
Systems Programmer
Systems Analyst
Statistician
Bank Financial Analyst
Business Owner
Secretarial
Accounting
Marketing Research
Tax Examiner
Management Analyst
Keypunch
Clerical
Director (Economic Project for Model Cities)

CHEMISTRY DEPARTMENT

Reviewer of Scholarly Journals in Field

DEVELOPMENT OFFICE

Coach
Professional Baseball Catcher
Marketing Representative (Tobacco Company)
Manager of Retail Outlet (U-Totem)
Editor

EDUCATION DEPARTMENT

Director (Reading Center)
Human Relations Trainer
Broker for Sale of Securities
Writer for N.A.S.A.
Real Estate Dealer
Business Owner
Sales Cashier
Management Consultant
Factory Work
Youth Organizer
Director (Nursery School)
Social Worker
Proposal Developer (Teacher Corp-TSU)
Bureau of Hearings & Appeals (Social Security Administration)

Counseling (Private)
Computer & Data Processing
Program Analyst (Teacher Corps)
Psychometrist
Instructional Media
Associated Minister
Assistant Minister
Minister
Receptionist
Trainer (NASSA)
Consultant in Field
Technical Assistant - Consultant (Teachers Corps)
Consultant in Job Placement (Job Corps)
Curriculum Consultant (Peace Corps)
Director (Teacher Corps/Peace Corps-Africa)
Instructor (Teacher Corps)

ENGLISH DEPARTMENT

Consultant in Field
Bibliographic Searcher
Editing College Publication
Statistician
Assistant Cultural Affairs Officer (United Stated Information Service)
Manager (Branch Office, National Advertising Agency)
Co-Sponsor Creative Writing Workshop (TSU)
Library
Public Relations Promotional
Promotional Director for Exhibits and Shows
Case Worker
Play Director
Co-Editor (Journal)

FIVE COLLEGE CONSORTIUM PROGRAM

Journeymen Carpenter

FOODS & NUTRITION (HOME ECONOMICS)

Drapery Seamstress
Musician
Cafeteria Hostess
Alterations (Clothing)
Registered Dietition
Home Economist

FOOD SERVICE

Hospital Dietitian
University Dietitian
Country Club Cook

Designers Group, Incorporated
American Wool Council
Fashion Group, Inc.

FOREIGN LANGUAGES

Claims Representative Trainee (Social Sefurity Administration)

GOVERNMENT

Management Trainee
Trade Delegate for Southern Africa
Assistant Director (International Insurance Department of Company)
Manager of Publications (Engineering Firm)
Government of Tanzania Official
Import Consultant
Director (Research Analysis)
Office Manager & Agent (Insurance Company)
Newspaper Reporter
Proposal Reader (National Science Foundation Grants)
Consultant (Shell Oil)

HEADSTART (LEADERSHIP DEVELOPMENT PROGRAM)

Merchandising (General Motors)
Secretarial
Assistant Law Librarian
Bilingual Specialist
Educational Board (Private Company)
Directory Supervisor (Hospital)
Public Relations
General Assistant
Librarian & Machine Operator
National Consultant for Headstart
National Consultant for Follow-Through
Materials & Equipment Supervisor
Teletype Operator

HEALTH & PHYSICAL EDUCATION

Assistant Track Coach
Relays Director (TSU)
Life Guard
Coach
Extramural Coach
Consultant (Curriculum Development)

HISTORY & GEOGRAPHY

Airline Pilot
Coordinator (Educational Television Series)
Vice President (Oil Company)
Law Clerk
Test Pilot (Boeing Aircraft)
Coordinator of Cultural Exchanges (between Teacher Education Colleges in United States and North Germany)
Sales Representative (Printing Company)

INSTRUCTIONAL MEDIA

Consultant (NDEA)
Inspector for Underwriters Laboratory
Audio Visual Technician
Analyst (Model Cities Training Center)
Technician (Service Department)
Film Librarian
Clerical

LAW

Project Director (Experimental Job Training Program)
Owner Apartment Houses
Librarian
Legal Assistant (National Aeronautics and Space Administration)
Field Attorney (National Labor Relations Board)
Secretarial
Supreme Court Justice Assistant
Research Attorney (National Housing & Development Law Center)

LIBRARY

Serials Librarian
Secretarial
Public Relations
Clerical
Public Library Catalogue
Librarian
Dental Assistant

MUSIC

Recreation Supervisor
Church Soloist
Director & Co-founder (The Summer Concerts)
Director & Founder (TSU Jazz Ensembles)
Violinist (Denver Symphony)

Church Choir Director
Co-director (TSU Jazz Ensemble)
Concert Performer (U.S. & Europe)
School Bank Director
Co-founder (The BUCKET Society - Composers)
Musician (Houston Symphony)
Church Organist
Guest Conductor

PHARMACY

Hospital Pharmacist
Retail Pharmacists Preceptor
Vice President (Loan Company)
Pharmacist
Executive Resident (American Society of Hospital Pharmacists)
Research Analyst
Director (AACP Cost Finding Study Commission)
Houston Legal Foundation
Consultant for OEO
Director--Pharmacist (Private Company)
Pharmacy Review Committee (National Institute of Health)
Real Estate Broker
Research Chemist
Staff Pharmacist (Veterans Administration Hospital)
Operated Law Office
Houston Action for Youth
Hispanic American Institute

PHYSICAL PLANT (MAINTENANCE, TRAFFIC & SECURITY)

Management Supervisor (Air Force)
Mechanic
Printer
Serviceman (Private Company)
Manager (Janitorial Service)
Secretarial
Physical Director (Boys Club)
University Bookstore Clerk
Carpenter
Business Proprietor
Personnel Officer (Army)
Construction Company
Coffee Technician (Maxwell House Coffee)

PHYSICS

Engineer (Lockheed)
Consultant in Field
Research (University)
Engineering Scientist

PSYCHOLOGY

Group Consultant (Model Cities)
Consulting School Psychologist
Consulting Psychology (Drug Abuse Program)
Director (Bureau of Testing)
Training Consultant (Harris County Commission Action Association)
Photographer
Supervisor (Veterans Administration)
Consultant (Model Cities)
Vocational Consultant (Social Security)
Instructional Aide Specialist
Accountant

READING & STUDY SKILLS CENTER

Technical Editor

SECRETARIAL & CLERICAL (GENERAL)

Secretarial
Teachers' Aide (Headstart)
Interviewer
Library Clerk
Receptionist (Administrative Office)
Administrative Assistant (University)
Director (General Office Services)
Invoice Clerk
Verifier Clerk

SOCIOLOGY & ECONOMICS

Director (Recreation Department)
Consultant (Department Public Welfare)
Task Force on Criminal Rehabilitation
Business Owner
Research Assistant (Community Planning)
Generic Counselor
Research (Institute of Criminal Law)
Case Worker
Consultant (Model Cities)
Planning Architect
Counseling
Cover Photo of Journal
Supervisor (Vocational Rehabilitation Project)

SPECIAL SERVICES

Harris County Community Action Association Counselor
Stock Clerk
Consultant
Systems Engineer Trainee

Community Center Coordinator
Typist
Supervisor (Community Action Program)
Neighborhood Center Day Care Association Program Specialist
Programmer
Social Worker
Department Store Information Desk

SPEECH & DRAMA

Radio
Choreographer
Actor
Director (Theater)
Editor

STUDENT PERSONNEL (COUNSELING, HOUSING)

Social Work
Resource Consultant
Secretarial
Director (Special Project, Boy Scouts)
Counseling
Test Specialist (Teacher Corps)
Janitorial & Domestic
Art Curator & Exhibitor
Nursing
PBX Operator
Cosmetologist
Youth Program Director (YMCA)
Research Coordinator
Basketball Coach
Nurses Aide

TECHNOLOGY

Electrician
Internship in Technical Education Research Center
Metal Fabricating (Sundry)
Production Consultant (Newspaper)
Industrial Relations
Engineering
Carpenter
Printing Company

UNIVERSITY YEAR FOR ACTION

Peer Counselor
Programming
Recreation Center Director
Staff Artist
Placement Counselor

Appendix B-5

PUBLIC SERVICE

ADMINISTRATIVE & CLERICAL

Chairman, Selective Service Board
Community Action Agency
Major Civil Rights Community (Washington, D.C.)
International Lions Club
Big Brothers of Houston, Inc.
YMCA
United Fund

AFRICAN STUDIES

Instructor YWCA - Swahili & African Studies
Development of Black Studies Program in Community Center

ART DEPARTMENT

Houston Council on Human Relations
Presentation of Puppet Show in Hermann Park for Festival Celebration
Judge at Local Shows

BIOLOGY DEPARTMENT

Participated in Local Encephalitis Epidemic Research
Counselor for Biology Peace Corps Students
London School of Hygiene & Tropical Medicine
Mayor's Commission for Police Recruitment
Church Work
Judge, Science Fair
Boy Scouts
YMCA
South MacGregor Civic Club

BUSINESS

Community College (Business)
Curriculum Evaluator High School
Business Workshops, High School
Teaching in Community Programs (OEO, HCCAA, YWCA)
Wesley House Community Center
Houston J.C.'s
Church
Jaycees
Sponsor of Accountant's Club (TSU)
Agrawal Youth Association (India)
Kala Mandir (India)

CHEMISTRY DEPARTMENT

Special Veterans Program
Baylor Work Study Program
Houston Community College

EDUCATION DEPARTMENT

Houston Board Housing Appeals
Leadership Workshop of Model Cities
Urban Resources Center Task Force
National Kidney Foundation
Developed Proposal for Improvement of Academic Performance Among Pupils at Bruce Elementary
Consultant MLK, Jr. Community Center (Mathematics)
Board of Directors, Southwest Center for Urban Research
Human Relations, Law Enforcement Departments
YMCA
Boy Scouts
Mel Havin Home
Community Relations, Model Cities
Bryan City Planning Community
Parent Advisory Councils
Advisor for Inservice Training, T. Hel Personnel
United Negro College Fund
Texas Interscholastic League
Council on Education & Race Relations
Youth Assistance Program, Model Cities

FIVE COLLEGE CONSORTIUM PROGRAM

Counselor, Drug Abuse Program
Counselor, Problem Teenagers

FOODS & NUTRITION (HOME ECONOMICS)

Eliza Johnson Home
YWCA
Dial-A-Dietitian
Harris County Neighborhood Center
Model Cities (Tennessee)
Head Start Workshop
Sacred Heart Nursing Home
Lutheran Campus Ministries
Shape Center
Lynn Eusan Learning Center
Red Cross
United Fund
Parent Teacher Association
4H Food Show

FOOD SERVICE

Food Demonstrations

GOVERNMENT

Consultant on Radio
Commentator-Analyst for Political Candidates in Primaries
Television Talk Show - Black Focus

HEADSTART (LEADERSHIP DEVELOPMENT PROGRAM)

Human Relations, Harris County Constable
Peace Corps
Harris County Child Welfare Unit
Housing Workshops
Mental Health Workshops

HEALTH & PHYSICAL EDUCATION

Board Member, Harris County Mental Health Services
Summer Youth Sports Programs
Volunteer Dance Teacher, YWCA
Co-Director, Creative Arts Workshop
Advisory Board, Model Cities
Counselor, Youth Fitness Program

HISTORY & GEOGRAPHY

Social Studies Curriculum Evaluation
Member of Community for the U.N. (Kennedy Administration)
Research Analyst for Candidates in State Elections
Research Analyst for Harris County Progressive Votes
Career Day Conference High School
Radio Forum Discussing Community Problems

LAW

Legal Aid
Board Director, Minority Tax Research Project

MUSIC

Taught Piano to Underprivileged Area Students
Directed Concerts in Miller Memorial Theatre
Board of Houston Friends of Music
Board of Houston Youth Symphony
Houston Miller Theater Community
Music Consultant, Head Start

PHARMACY

Community Health & Development Program
Manager of Community Pharmacy
Sickle Cell Anemia Foundation
Medical Forum, Veneral Disease
Upward Bound Science Teacher
Sickle Cell Screening Project
Harris County Community for Health Security
Houston Area Veneral Disease Awareness Group

PHYSICAL PLANT (MAINTENANCE, TRAFFIC & SECURITY)

Technical Advisor, Model Cities
Community Center Boys Leader

PSYCHOLOGY

Board Member, Houston Montessori Society
Board Member, Houston United Nations Association
Houston Council on Human Relations
Psychology Counselor Harris County Halfway House
Counselor, Drug House Program

READING & STUDY SKILLS CENTER

Coordinator, Teacher Corps

SPEECH AND DRAMA

Broadcaster & Liaison
Model Cities
Casting Director, Unigraph
International Productions
18th Avenue Community Center
Boy Scouts
Houston Light House for the Blind

SOCIOLOGY & ECONOMICS

Case Worker, American Red Cross
Group Work Neighborhood House
Community Civic Work
Consultant, Political Campaigns
Police/Community Forum
Teacher Corps
Creative Kapers, Childrens Education Activities
Volunteer Nurse, Army Hospital
Community Services, Minority Teens
Organizer, Riverside National Bank

STUDENT PERSONNEL (COUNSELING, HOUSING)

Mental Health Chairman
Assistant District Commissioner Boy Scouts
Advisor Committee Home for Aged
TSU Community Cooperative Youth Program
Group Leader, Police Community Relations Program
Program Coordinator, Model Cities Training Center
Job Corps Instructor
Harris County Community Court

TECHNOLOGY

Supervision of Equipment of Wesley Square Housing
Cooperative Education
Housing, Community Council of Human Relations
Model Cities

UNIVERSITY YEAR FOR ACTION

Counselor, Vocational Guidance Service
Assistant, Head Start Program

Appendix B-6

UNPUBLISHED RESEARCH

ADMINISTRATIVE AND CLERICAL

Evaluation of University Open Admissions Policy
College Achievement and Disadvantaged Students

AFRICAN STUDIES

Mathematical and Statistical
Psychology
Administrative

ART DEPARTMENT

Art Areas for Elementary School
Experiments with Sawdust as Modeling Media
Plastic and Peuter Jewelry
Art of Mosaic Making
Painting with Wax
Serigraphy
Puppet Making

BIOLOGY DEPARTMENT

Biomedical
Health and Allied Health
Immunobiology
Cancer Biology
Drugs
Sickle Cell
Pharmacological
Transport Phenomena in Primitive Mollusks
Ecology
Leukemia
Histological
Leukemogenesis
Mathematical Methods in Biology Sciences
Plant Physiology and Botany
Metabolic Pathways of Asperfillus Fungi

BUSINESS

New Operations Program for Small Business Development Corporation
Organization of Neighborhood Businesses into Trade Associations
Mathematical and Substantive Rules

Optimal Administrative Action under NEPA (to be published in Ecology Law Quarterly)
Analysis of Distribution of Tool Life Values
Job Satisfaction
College Students
Teaching of Business
Occupational and Educational Decision Making Techniques of Undergraduate Business Majors at TSU and U of H

CHEMISTRY DEPARTMENT

Development of Computer Programs in "BASIC"

EDUCATION

Reading
Human Relations
Campus Action
Research in Teacher Success
Research in Student Success
Testing
Attitudinal Studies
Children's Literature
Professional Investment
Rural Education
Graduate Students Research Skills
Environmental
Discipline (Effect in Kindergarten)
Student-Teacher Relations
Drugs
Non-Verbal Communication
Research on Culturally Disadvantaged
Research on the Handicapped
Personnel
National Guidelines for Parent Involvement in Head Start
Reports on Conferences and Workshops

ENGLISH DEPARTMENT

Ethnic Relationship of Liberian Languages
Studies in Negro Poetry
Black English
Patterning of Igboanthroponyms
Research in English Usage (students TSU)
Follow-up of Students in English-Math Institution
Structuralism and Interpretation of Literature

HOME ECONOMICS

Foods and Nutrition
Nutrition and Cancer
Professional Vocational Training
Student Course Requirements
Graduate Opinion Survey

FOREIGN LANGUAGE

Creative Thinking
Updating Montesquieu's Theory of Climate
Victor Hugo's Poetry

GOVERNMENT

Civil Rights Testimony before Congress on Public Accomodations

HEADSTART (LEADERSHIP DEVELOPMENT PROGRAM)

Designed Play Equipment and Teaching Aids
(Compiled series of booklets)
Housing Conditions Black Families (Georgia)
Dietary Habits Rural Families (Houston Company)
Preschool Children
Cooperative Youth Study of Texas Students
Minnesota Mathematics and Science Teachers Projects
National Science Foundation-Chemical
Reading Remediation

HEALTH AND PHYSICAL EDUCATION

Choreography for Museum of Fine Arts
African Influence in the Dances of Mexico
Television Series
Physical Fitness Status of Women Enrolled in Physical Education at TSU

HISTORY AND GEOGRAPHY

Military Research In Air Force
Black Congressional Leaders
Reconstruction Under Grant
Napoleon and Louisiana: A Study in Diplomacy
Black Populism in Texas
White Primary Law in Texas
Reconstruction in Texas
Southern Justice Since 1945
Booker T. Washington Revisited
Race Relations
History for the Neglected

LAW

Technical Law Areas
Constitutionality of Statutory Presumptions
Labor Reform Legislation

LIBRARY

Developed Classification Scheme
Proposal for Houston Urban Multi-Media Center
Workshop on Federal Documents–Treatment and Use in Black Academic Libraries
Dial Assess Capabilities for Library Facilities

MUSIC

Integrative Black Studies Approach
Black Music
Composed Pieces of "Art" Music
Concerts for School Children
Assisted in composing and conducting sound track for NET Films

PHARMACY

Experimental Drug Research
Cardiovascular Pharmacology
Consultant
Medical Application of Exchange Resins
Chemical Analysis
Application of Dosage Form Device
Developed Analytic Toxicology
Laboratory in School of Pharmacy

PSYCHOLOGY

Philosophical Research
Research for Model Cities
Developed Evaluation Instrument for Training Program
Academic Achievement
Programmed Learning
Instructional Media
Child Psychology
Physiological Psychology
Development of Learning Disabilities Program

READING AND STUDY SKILLS CENTER

Guidance Problems
Linguistics and Reading Comprehension

SECRETARIAL AND CLERICAL (GENERAL)

Vocational Education and Business Education
Advantages of Travel Insurance

SOCIOLOGY AND ECONOMICS

Proposal on Acres Homes (Houston)
Civil Rights Commission
Evaluation Through Photography of Summer Recreation Program
Projects Related to Achievement Program in Low-income Neighborhood Schools
Minority Employment Programs
Projects as Research Associate (University)
Study for Comprehensive Service Centers
Opinion Research Corporation
Asst. Project on Houston Urban Negro
Economic Research
Use of Computer in Teaching Economics

STUDENT PERSONNEL

Graduate Survey (TSU)
Survey of Traffic Problems at TSU
Survey of Occupants in Veterans Housing Project (TSU)
Revision of College Curriculum in Home Economics
Religious Relevant to Students at TSU

TECHNOLOGY

Scientific Instructional Equipment for Industrial Electronics
Computerized Equipment
Teenage Employment in Houston
Housing Conditions and Rehabilitation Costs
New Influences on Industrial Arts Education
Impact of Modern Technology on Industry
Vocational Rehabilitation on Research Concerning Federal Appropriations
Curriculum Design
An Analysis of Printing
Fundamentals of Hand Composition
Status of Students in School of Industries
Industrial Arts at Elementary Level
Supervising Training in Industry
Industrial Arts Teachers Experience

UNIVERSITY YEAR FOR ACTION

Drop-outs
Modes of Child Discipline

Appendix B-7

PROFESSIONAL MEMBERSHIPS

ADMINISTRATIVE & CLERICAL

National Association of Financial Aid Administrators
Southwestern Association of Financial Aid Administration
Texas State Board of Psychological Examiners
Texas Association of Financial Aid Administration
Texas Association of College Registrars and Admission Officers
American Association of College Registrars & Admission Officers
Texas Association of Mexican-American Education
Association of College Admission Counselors
Association of Higher Education
National Teachers Association
Elementary Classroom Teachers Association
Texas Personnel Service Administrators
Association for College Unions

AFRICAN STUDIES

American Society of Microbiologists
Texas Academy of Science
Intern Student Organization
African Organization

ART DEPARTMENT

Association Member Danforth Foundation
American Federation of Art
African Studies Association
Cultural Community Houston Chamber of Commerce
Houston Municipal Fine Arts Commission
Fellow Intern Institute of Arts & Letters
National Society of Mural Painters
Texas Art Education Association
Texas Association of College Teachers
Texas Association of University Professors
Texas College Art Association
Texas Fine Arts Commission
Texas Institute of Letters
Texas Fine Arts Society
Western Artists Association

BIOLOGY DEPARTMENT

American Society of Parasitologists
Royal Society of Tropical Medicine Hygiene
Texas Academy of Sciences

Canadian Society of Genetics & Cytology
American Society of Clinical Pathologists
American Institute of Biological Science
Beta Beta Beta Biological Society
British Society for Parasitologists
Southwestern Society for Parasitologists
Texas Society for Electron Microscopists
National Institute of Sciences
American Society of Medicine Technologists
Texas Association of College Teachers
American Association for the Advancement of Science
Association of Schools of Allied Health Professions
American Society for Microbiology
Nigerian Science Association
West African Science Association
Genetics Society of America
Polish Biochemical Society
London Biochemical Society
Polish Institute of Arts & Sciences in America
Nicholas Copernicus Society (Houston)
American Zoological Society
Beta Kappa Chi Scientific Honor Society
Sigma Xi Honor Society

BUSINESS

Mississippi Valley Historical Society
American Savings & Loan Institute
National Association of Market Developers
Financial Management Association
American Finance Association
American Association of University Professors
Texas Bar Association
American Institute of Industrial Engineers
Institute of Engineers (India)
American Institute for Decision Sciences
National Business Education Association
National Education Association
Texas Business Teacher Education Council
Texas Business Education Association
National Association of Teacher Education for Business & Office Education
National Association of Minority Economic Development Specialists
Financial Executives Institute
Southwestern Finance Association
American Economic Association
Academy of Management
Caucus of Black Economists
Houston Bar Association
Society of Manufacturing Engineers

Texas Association of College Teachers
Greater Houston Business Education Association
Texas State Teachers Association
National Association of Business Teacher Education

CHEMISTRY DEPARTMENT

American Chemical Society
New York Academy of Science
Society Religion in Higher Education
American Institute of Chemists
Houston Engineering Council
Kansas Academy of Science
Texas Academy of Science
Great Plains Association of Chemistry Teachers

DEVELOPMENT OFFICE

Committee on Minority Institutions
American Fund Raising Officers in Negro Colleges
National Association of Market Developers
American College of Public Relations Association

EDUCATION DEPARTMENT

Association of Supervision & Curriculum Development
American Association of Higher Education
American Personnel & Guidance Association
American Educational Research Association
International Reading Association
International Political Science Association
Pi Lambda Theta
Mental Hygiene Association
National Education Association
National Association of Secondary Administrators
National Association of Secondary School Principals
Texas Association of College Teachers
Texas Association of Teacher Education
Texas Association of Professors of Reading
Texas Association of Counselors, Educators & Supervisors
Texas Vocational Guidance Association
National Council of Teachers of Mathematics
National Society for the Study of Education
World Confederation of Organizations of Teaching Profession
Smithsonian Associate
National Association for Humanities Education
Texas Education Association
Texas State Teachers Association
American Association of University Professors

American Association for Advancement of Science
Association of Deans of Women & Counselors
Association of Non-White Concerns
Association for Childhood Education (International)
Comparative Education Association
American Association of College Admissions Directors
American Political Science Association
American Association of Colleges for Teacher Education
Association of Colleges & Secondary Schools
National Association of Student Personnel Workers
National Association for Education of Young Children
Texas Association for Education of Young Children
Southern Association for Children Under Six
Day Care and Child Development Council of America
National Council for Black Child Development
Houston Principals Association
Phi Delta Kappa
Kappa Delta Pi
National Directors of Urban Affairs
Conservation Society of America
California Teachers Association
State Principals Association
Adult Education Association (U.S.)

ENGLISH DEPARTMENT

American Bibliographical Association
American Educational Theatre Association
American Association of University Professors
College English Association
College Language Association
Conference on Black Literature
Modern Language Association
Multi-Ethnic Studies Association
National Education Association
South Central Modern Language Association
Texas Association of College Teachers
Association of English Department Chairmen
Association for Educational Communications & Technology
Conference on English Education
Conference of College Teachers of English
Conference on College Composition & Communication
National Council of Teachers of English
Women in Communications
Webster Parish Education Association

FOODS & NUTRITION (HOME ECONOMICS)

American Association of University Professors
American Home Economics Association
American Dietetic Association

American Public Health Association
Association of Schools of Allied Health Professors
American Association of University Women
National Society for Study of Education
American College Professors of Textiles & Clothing
Department of Home Economics of National Education Association
Houston Area Home Economics Association
American Association of Housing Educators
Texas Home Economics Association
Texas Nutrition Council
Texas Public Health Association
Early Childhood Education Association
American Society for Hospital Food Service Administration
American Vocational Association
Texas Association of College Teachers
National Education Association
American Teachers Association
Texas State Teachers Association

FOOD SERVICE

National Restuarant Association
National Association of Colleges & University Food Services
American School Food Service Association
Texas Restaurant Association
Regional Association of Colleges & University Food Services

FOREIGN LANGUAGES

American Association of Teachers of Spanish & Portuguese
The Institute of Hispanic Culture of Houston
National Association of Education Communication & Technology
American Association of Teachers of French
Modern Language Association
American Association of University Professors
College Language Association
South Central Modern Language Association
International Poetry Society
American Association of Teachers of French
Houston Association of Teachers of Foreign Languages
Texas Association of German Students
German American Club

GOVERNMENT

African Studies Association
American Society of International Law
American Foreign Law Association
American Political Science Association
American Association of University Professors
National Conferences of Black Political Scientists
American Academy of Political & Social Science

American Association for Public Opinion Residents
American Association for the Advancement of Science
Latin American Studies Association
South Central Modern Language Association
Southwestern Society Science Association
South Dakota Association of the UN

HEADSTART (LEADERSHIP DEVELOPMENT PROGRAM)

Houston Teachers Association
National Association Education of Young Children
California Teachers Association
Texas State Teachers Association
Mexican-American Educators of Texas
Southern Association on Children Under Six
American Home Economics Association
American Home Economists Association
Montessori Association
American Association for Advancement of Science
Black Child Development Institute
Council of Exceptional Children
California Association for Education of Young Children

Texas Mental Health Association
National Education Association
Child Study Association of America
National Nursery School Association
American Vocational Association
Association Childhood Education International
American Association of Elementary Nursery Educators
Black Congress on Higher Education
Conference of American Instructors of the Deaf

HEALTH AND PHYSICAL EDUCATION

American Association for Health, Physical Education and Recreation
American Public Health Association
American Association of University Professors
Texas Public Health Association
Texas Association of College Teachers
American School Health Association
National Education Association
United States Track and Field Association
President's Council on Physical Fitness
Texas Teachers Association
Southern Association for Physical Education for College Women
Texas Association of Health, Physical Education and Recreation
NAIA Sports Information Directors
College Sports Information Directors of America
American College Public Relations Association

HISTORY AND GEOGRAPHY

Association of American Geographers
Arctic Institute
Daedalians (USAF)
National Geographis Society
International Oceanographic Foundation
Association for Study of Negro Life and History
Association of Social Science Teachers
Southern Historical Association
Mississippi Valley Historical Association
Now Organization of American Historians

INSTRUCTIONAL MEDIA

Association of Educational Communications and Technology

LAW

Houston Bar Association
Texas Bar Association
Florida Bar Association
American Bar Association
International Association of Criminal and Penal Law
American Association of Law Libraries
New York Bar Association
Association of American Law Schools
Houston Lawyers Association

LIBRARY

American Association of University Professors
American Library Association
Southwest Library Association
National Educational Association
Texas Association of College Teachers
Texas Library Association
Memphis Educational Association
West Tennessee Educational Association
Houston Library Clubs
Special Library Association (Houston)

MUSIC

Texas Association of College Teachers
American Association of University Professors
National Association of Teachers of Singing
American Federation of Musicians
Music Educators National Conference
Texas Association of Music Schools

Texas Music Education Association
College Music Association
American Society of Composers, Authors and Publishers
National Association of Jazz Educators
National Band Association
National Opera Association
American Orff-Schulwerk Association
National Association of Humanities Educators
Association of Teacher Educators

PHARMACY

American Pharmaceutical Association
Academy of Pharmaceutical Sciences
Pharmaceutical and Dental Society
Texas Association of College Teachers
Houston Pharmaceutical Association
National Pharmaceutical Association
Harris County Pharmaceutical Association
Texas Pharmaceutical Association
American Association of Colleges of Pharmacy
Texas Bar Association
Texas Association of Mexican-American Educators
Houston Pharmacologists
American Academy for the General Practice of Pharmacy
American Chemical Society
American Society of Hospital Pharmacists
Houston-Galveston Area Society of Hospital Pharmacists
American Association for Advancement of Science
American Association of University Professors

PHYSICS

American Association of Physics Teachers
American Physical Society
American Association of University Professors
Texas Academy of Sciences
Society of Atomic Scientists
American Association for Advancement of Science
American Physicist Association
American Institute of Biological Science
American Institute of Physics

PSYCHOLOGY

American Philosophical Association
American Society for Aesthetics
Southern Society for Philosophy and Psychology
Southwestern Philosophical Society
Society for Phenomenology and Existential Philosophy

American Association of University Professors
American Psychological Association
Texas Psychological Association
Houston Psychological Association
American Personnel and Guidance Association
National Educational Association
Texas Personnel and Guidance Association
Texas State Teachers Association
Texas Audio-Visual Education Association
American Guild of Organists
International Council for Exceptional Children
Texas Educational Television Association
Society for Neurosciences
National Teachers Association

READING AND STUDY SKILLS CENTER

International Reading Association
National Reading Conference
College Reading Teachers Association
Western College Reading Association
National Educational Association
American Association of University Professors
Texas State Association of Teachers
Texas Association of College Teachers

SECRETARIAL AND CLERICAL

National Association of College Women
National Secretarial Association International
Association of Childhood Education International
Houston Area Association for Education of Young Children
Southern Association for Children Under Six
Texas Association for Education of Young Children
National Association for Education of Young Children

SOCIOLOGY AND ECONOMICS

Council on Social Work Education
National Association of Social Workers
National Association of American Professors
National Educational Association
Britannica Society
Black Social Science Association
Southwestern Social Science Association
Southwestern Sociological Association
Texas Association of College Teachers
Association of Black Social Workers of Texas
Action Alliance for Undergraduate Social Work

Southern Sociological Society
Academy of Certified Social Workers
Black Economic Caucus
American Marketing Association
American Association of Wholesalers
International Traders Association
Association for the Study of Negro Life and History
American Institute of Planners
American Institute of Architects
American Economic Society
American Political Society
American Association of University Professors
African Studies Association
American Society Association
American Conference of Academic Deans
American Association for Higher Education
World Future Society
American Finance Association
Association of Social Science Teachers
American Business Law Association
Association for Computer Machinery
Data Processing Management Association
National Council of University Research Administrators
National Society of Research

SPECIAL SERVICES

American Home Economics Association
Association for Institutional Research
National Society for Programmed Institution
National Association of Home Economics Teachers Education
American Vocational Association
Texas Association of Educational Data Processors
Delta Sigma Theta
NEAL
Texas State Teachers Association
AHEA
Smith College Alumni Association
Smith College Club of Houston

SPEECH AND DRAMA

American Theatre Association
Speech Communication Association
New York City Teachers of English
Richard III Society
Southern Speech Communication Association
Texas Speech Association
Texas Educational Theatre Association

STUDENT PERSONNEL (COUNSELING, HOUSING)

American Personnel & Guidance Association
American Institute of Parlimentarians
American College Personnel Association
American Home Economics Association
American School Counselor
American Vocational Association
Association for School, College and University Staffing
American Psychological Association
American Personnel and Guidance Association
National Vocational Guidance
National Association of Women Deans and Counselors
National Association of Student Personnel Administration
Southwest Placement Association
Southern Colleges Personnel Association
Student Bar Association
Texas Vocational Guidance Association
Texas Association to School, College and University Staffing
Texas State Teachers Association
Texas Student Education Association
Association for Childhood Education
International Association for Childhood Education

TECHNOLOGY

Texas Association of Collegiate Registrars and Administrative Officers
American Association of College Registrars and Admissions Officers
Texas Personnel and Guidance Association
Texas Industrial Vocational Association
American Technical Education Association
Texas Safety Education Association
National Safety Council Association
National Association of Industrial Technology
National Association of Black Adult Educators
National Association of Industrial and Technical Teachers Educators
Instrument Society of America
American Radio Relay League
American Vocational Association
The Society of Photographers in Industries
Lone Star Vocational Association
Texas Biological Photographers Association
American Society for Engineering Education
Cooperative Education Association
American Institute of Architects
Texas Society of Architects
American Industrial Arts Association
Texas Industrial Education Association
Texas Industrial Arts Association

National Education Association
American Institute for Design Drafting
American Council on Industrial Arts Teacher Education
National Association of Security Dealers
National Technology Association
Texas Association of College Teachers
International Graphic Arts Association

UNIVERSITY YEAR FOR ACTION

American Personnel and Guidance Association
National Vocational Guidance Association
Southern Association of Counselor Education
Texas Psychological Association
American Psychological Association

APPENDIX C-1

FORECAST OF EXPANDED BUILDING UTILIZATION

ilding	Capacity	Estimated Utilization[1] (Daily)	Forecasted Expanded Utilization[2] (Daily)	Predicted Total Utilization[3]
nnah Hall	1252	6009	8012	7751
ay Hall	288	1382	1843	1782
ience Building	1405	6744	8692	8699
irchild Building	140	672	4301	867
sic Building	82	393	524	503
ams Gymnasium	280	1344	1792	1738
siness Building	630	3024	4032	3901
manities Building	1278	6134	8179	7913
ience Building	268	1286	1712	2208
TOTAL	2056	26,988	38,487	35,362

[1]Estimated flow rate of 80 capacity @ 6 hours/day
[2]Estimated flow rate of 80 capacity @ 8 hours/day
[3]Predicted service for a 14 hour per day operation (8AM to 10PM) based on present enrollment

APPENDIX C-2

SCHEDULE FOR BUILDING REPLACEMENT

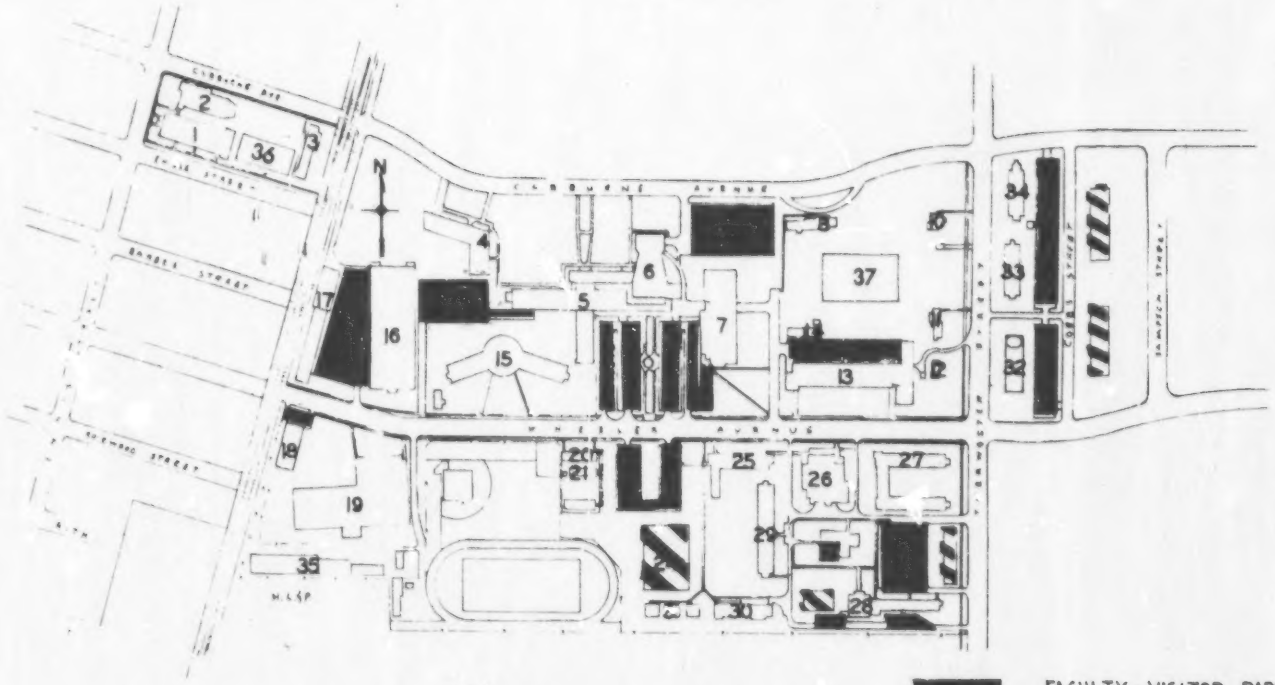
Building Name	Date of Occupancy	Initial Cost	Present Estimated Replacement Cost	Scheduled Replacement Cost	Scheduled Replacement Year
Mack Hannah Hall	1950	$1,975,409	$4,101,296	$ 8,476,296	1990
Gray Hall	1952	702,937	1,202,214	2,761,300	1992
Library Building	1957	1,822,956	2,400,000	6,326,400	1997
Science Building	1958	2,024,898	3,037,039	11,591,000	1998
Fairchild Building	1947	431,328	1,012,775	1,581,779	Now
Industrial Education Shop	1963	116,462	149,071	300,000	1983
Fine Arts Building	1963	304,203	389,386	*	2003
Child Development Lab	1963	92,955	118,979	284,000	1983
Home Economics Practice Cottage	1949	34,696	73,561	73,561	Now
Auto Mechanics Building	1961	70,594	96,008	115,000	Now
President's Cottage	1949	50,429	104,068	217,569	1989
Maintenance Office	1957	13,905	19,965	57,000	1997
Lanier Hall (Men)	1956	665,393	1,091,245	1,221,245	1976
Lanier Hall (Women)	1956	280,848	460,591	621,000	1976
Student Union	1956	66,971	109,832	347,900	1996
Jones Hall	1959	132,193	193,002	376,000	1989
Dormitory Cottages	1961	30,021	41,230	92,000	1991
Bolton Hall	1963	668,994	856,312	2,020,470	1993
Jr/Sr Men's Dormitory	1963	498,127	637,603	1,976,560	1993
Bruce Hall	1965	538,531	651,623	2,100,000	1995
Married Faculty Apartments	1965	652,826	533,145	1,332,645	1995
Business Building	1968	601,020	676,981	*	2008
Humanities Building	1968	1,483,464	1,534,108	*	2008
Music Building	1970	629,000	644,000	*	2010
Home Economics Building	1970	530,105	581,901	*	2010

*Replacements for periods greater than twenty-five (25) years were not computed.

LEGEND

1. MUSIC CLASSROOM BUILDING
2. MUSIC CENTER AUDITORIUM
3. ART CENTER
4. GRAY HALL – PHARMACY
5. HANNAH HALL – ADMIN & CLASSROOMS
6. AUDITORIUM
7. LIBRARY
8. BANKS HALL – CHILD DEVELOPMENT
9. HOME ECONOMICS
10. PRESIDENT'S HOME
11. PRACTICE COTTAGE
12. SUPERINTENDENT – BUILDINGS & GROUNDS
13. SCIENCE HALL
14. CENTRAL PLANT
15. HUMANITIES BUILDING
16. FAIRCHILD BUILDING
17. AUTO MECHANICS SHOPS
18. MAINTENANCE OFFICE
19. ADAMS HALL – PHYS. ED.
20. EXPERIMENTAL LAB
21. JOURNALISM BUILDING
22. STORE ROOM & OFFICE
23. FIELD HOUSE & OFFICE
24. ADMINISTRATION
25. LANIER HALL – MEN
26. STUDENT UNION
27. LANIER HALL – WOMEN
28. BOLTON HALL & CAFETERIA
29. JUNIOR & SENIOR DORM. – MEN
30. JONES HALL – MEN
31. DORMITORY COTTAGES
32. SCHOOL OF BUSINESS
33. BRUCE HALL – WOMEN
34. MARRIED STUDENTS & FACULTY APT.
35. MAINTENANCE SHOPS
36. MUSIC CLASSROOM BUILDING
37. HOME ECONOMICS BUILDING

TEXAS SOUTHERN UNIVERSITY



FACULTY - VISITOR PARKII

FACULTY - STUDENT PARK

STUDENT PARKING

RESERVE PARKING

EXISTING BUILDING

PROPOSED BUILDING

APPENDIX C-4

TEXAS SOUTHERN UNIVERSITY MAINTENANCE TRENDS

Item	Ratio Cost to Maintenance	Percent of Total Budget	Rate of Amortization*
Administrative Facilities	12.8:1	.83%	-2%
Academic Facilities	13.7:1	2.35%	0.8%
Service Facilities	12.0:1	.42%	--
Research Facilities	13.7:1	.77%	--
Instructional Equipment	9.2:1	.55%	-5%
Research Equipment	6.3:1	.13%	+2.7%
Special Program Equipment	2.6:1	.0625%	-10%

*Minus sign "-" denotes decreased value rate. Plus sign "+" denotes increased value rate.

APPENDIX D-1

TSU FINANCIAL TREND (1968-1973)
STATE APPROPRIATIONS

ool	Department	Overhead	Instructional*	Total
inistration	President's Office	$ 5,250	$ 53,000	$ 58,250
	Board of Directors	10,900	2,579	13,479
	Academic Vice-President	2,600	9,980	12,580
	Fiscal Office	28,500	182,000	210,500
	Registrar	12,000	71,600	83,600
	Dean of Students	4,100	50,000	54,100
	Placement	4,800	14,600	19,400
	Security & Maintenance	96,000	201,000	297,000
	Summer School	-	12,000	12,000
	Supportive Services	62,000	251,700	313,700
	Graduate School	5,200	34,000	39,200
	Library	12,100	581,000	593,100
s & Sciences	Administration	2,700	14,800	17,500
	Art	5,900	62,300	68,200
	English	3,300	255,000	258,300
	Psychology	1,200	103,000	104,200
	Journalism	2,300	22,000	24,300
	Reading	2,000	45,600	47,600
	Speech & Drama	1,100	50,900	52,000
	Sociology & Economics	1,000	115,000	116,000
	Government	-	62,000	62,000
	Biology	8,700	101,000	109,700
	Chemistry	5,800	95,200	101,000
	Physics	1,000	50,000	51,000
	Mathematics	3,100	172,000	175,100
	Home Economics	4,200	79,000	83,200
	Music	5,700	172,000	177,900
	Physical Education	3,500	119,000	122,500
	History & Geography	1,200	108,000	109,200
	Language	3,000	84,500	87,500
ness	Administration	2,200	20,000	22,200
	Accounting	13,000	61,000	74,000
	General Business	1,100	129,000	130,100
	Business Education	7,500	67,000	74,500
		-	154,000	154,000
nology		18,000	177,000	195,000
macy		15,000	165,000	180,000
ation		10,000	273,000	283,000
ersity		$365,950	$4,298,959	$4,664,909

tructional means administrative salary for administration departments.

APPENDIX D-2

TSU TWENTY-FIVE YEAR FISCAL FORECAST

YEAR	Administration	Arts & Sciences	Business	Education	Law	Pharmacy	Technology
1974	$1,054,000	$2,424,000	$ 400,520	$ 385,000	$201,000	$250,000	$250,000
1975	1,160,000	2,668,000	441,560	421,000	225,000	275,000	275,000
1976	1,160,000	2,668,000	441,560	421,000	225,000	275,000	275,000
1977	1,280,000	2,944,000	486,400	475,000	285,000	310,000	315,000
1978	1,280,000	2,944,000	486,400	475,000	285,000	310,000	315,000
1979	1,410,000	3,243,000	535,800	521,000	308,000	370,000	370,000
1980	1,410,000	3,243,000	535,800	521,000	308,000	370,000	370,000
1981	1,575,000	3,622,500	598,500	578,000	328,000	398,000	400,000
1982	1,575,000	3,622,500	598,500	578,000	328,000	398,000	400,000
1983	1,740,000	4,000,200	661,200	632,000	359,000	402,000	405,000
1984	1,740,000	4,000,200	661,200	632,000	359,000	402,000	405,000
1985	1,950,000	4,485,000	741,000	720,000	388,000	452,000	452,000
1986	1,950,000	4,485,000	741,000	720,000	388,000	452,000	452,000
1987	2,150,000	4,945,000	817,000	785,000	410,000	501,000	501,000
1988	2,150,000	4,945,000	817,000	785,000	410,000	501,000	501,000
1989	2,375,000	5,463,000	902,500	867,000	475,000	550,000	552,000
1990	2,620,000	6,026,000	983,400	942,000	510,000	550,000	552,000
1991	2,620,000	6,026,000	983,400	942,000	510,000	612,000	612,000
1992	2,850,000	6,555,000	1,000,000	997,000	585,000	635,000	612,000
1993	2,850,000	6,555,000	1,000,000	997,000	585,000	635,000	612,000
1994	3,125,000	7,190,000	1,187,000	1,100,000	622,000	728,000	725,000
1995	3,125,000	7,190,000	1,187,000	1,100,000	622,000	728,000	725,000
1996	3,430,000	7,889,000	1,300,000	1,182,000	679,000	791,000	800,000
1997	3,430,000	7,889,000	1,300,000	1,182,000	679,000	791,000	800,000
1998	3,700,000	8,510,000	1,400,000	1,261,000	731,000	856,000	910,000

Mobiliza-tion | Implemen-tation | Maximum absorption period & Re-evaluation and adjustment

APPENDIX D-3

UNIVERSITY ACADEMIC WORKLOAD DISTRIBUTION

	100 Level	200 Level	300 Level	400 Level	Graduate	Total
College of Arts and Science	87	163	310	297	182	729
School of Law	--	--	--	--	46	46
School of Business	12	39	67	58	47	223
School of Pharmacy	--	--	12	26	16	54
School of Education	11	--	22	22	54	109
School of Industries	42	53	58	31	--	184
TOTAL	152	255	469	434	345	1,345